Miami Beach Neighborhood Greenways

North Bay Road

NOVEMBER 19, 2018
UPDATED JANUARY 31, 2019

ZYSCOVICH
ARCHITECTS

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JETTY

DIRECTORY



RENT ME!

BENTLEY

DECOBIKE
001

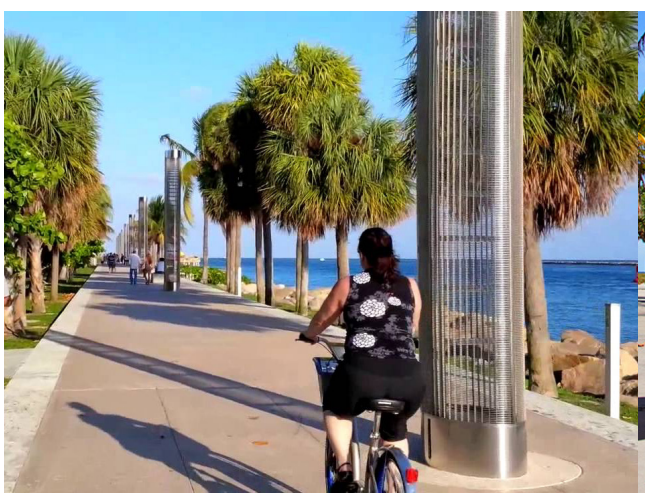
145
DIRECTORY
DECOBIKE IS YOUR BIKE SO PLEASE TAKE GOOD CARE OF IT...
DECOBIKE





DO YOU
DECOBIKE

BIKE
TOUR?

DECOBIKE
WANT TO TAKE A
BIKE
TOUR?


EXECUTIVE SUMMARY

Background

The adopted 2016 Miami Beach Transportation Master Plan was built on a mode share goal and modal prioritization strategy adopted by Resolution 2015-29083 on July 8, 2015, which places pedestrians first; transit, bicycles, and freight second; and private automobiles third. Projects in the Transportation Master Plan are intended to move Miami Beach towards this mode share vision by increasing pedestrian, bicycle, and transit travel.

The Miami Beach Transportation Master Plan (TMP) suggested the Neighborhood Greenways as a way to help reach this mode share vision. Neighborhood Greenways, as defined in the TMP, are streets where cars are not excluded, but allow for bicycle and pedestrian travel to be comfortable for all ages and skill levels. This can be accomplished through lower vehicular traffic speeds, landscaping to enhance the bicycle and pedestrian experience, and/or enhanced road design. The results of which improve the safety for all users.

In summary, the goal is for Neighborhood Greenways to be so appealing that they encourage bicycle use for recreational riders and trips within Miami Beach. Neighborhood Greenways will also reduce regional greenhouse gas emissions, and align with Miami Beach's resiliency program and the goals of the 100 Resilient Cities partnership.

The project area for the North Bay Road Neighborhood Greenway Plan runs along North Bay Road from its intersection with 63rd Street south to 20th Street. Two concepts are identified for further study which connect upper North Bay Road with lower North Bay Road in the vicinity of Mount Sinai Medical Center.

Project History and Outreach

On May 12, 2017, the Transportation Department issued a Notice to Proceed to Zyscovich Architects for a Feasibility Study evaluating implementation of Neighborhood Greenways in North Beach. A kickoff meeting initiated the studies and ensured that City Staff and the consultant team were on the same page regarding project deliverables.

The consultants then conducted field reviews and read existing plans and studies to better understand the context and current conditions of the study area. From that review, initial design options were created for review by staff. The approach was to work toward a comprehensive network of bicycle facilities on North Bay Road.

On August 7, 2017, the first public meeting was held to present the study to the public and invite community feedback. The response from the community was positive.

The North Bay Road Neighborhood Greenway concepts were then refined and reviewed extensively with Transportation staff and internal Miami Beach stakeholders. The Transportation, Parking and Bicycle Facilities Committee reviewed the North Beach Neighborhood Greenways concepts on April 9, 2017 and June 11, 2018. A small group of neighborhood representatives reviewed and supported the concepts on June 26, 2018.

Two concept review meetings were held with internal stakeholders March 19, 2018 and August 22, 2018. Attendees included representatives from Capital Improvement Projects, Emergency Management, Facilities Management, Parking, Planning, Public Works, Sustainability, and Tourism, Culture, and Economic Development (TCED). A review meeting was held with Fire on August 30, 2018 and comments were incorporated into the concepts.

The North Bay Road Neighborhood Greenway concepts were also reviewed with the Florida Department of Transportation (FDOT) on February 23, 2018 and Miami-Dade County Department of Transportation and Public Works (DTPW) on April 11, 2017. Final draft plan concepts will also be sent to both FDOT and DTPW for review. Input was received from DTPW on initial decorative crosswalk concepts that were incorporated into the initial design. Alternative design concepts with enhanced landscaping instead of decorative crosswalks were incorporated into the final concepts. DTPW suggested that crosswalks would not meet the warrant analysis required for mid-block installation in such a quiet residential neighborhood. Speed tables were also contemplated in the initial design, but were not supported by DTPW, and alternative concepts were found.

Future review by the Miami Beach Neighborhood and Community Affairs Committee and City Commission are the final steps in the North Bay Road Neighborhood Greenways Feasibility Study.

Proposed Improvements

The North Bay Road Neighborhood Greenway is important because it provides a safe and comfortable roadway for cars, bicycles, and pedestrians when travelling between Middle Beach and South Beach.

The North Bay Drive Neighborhood Greenway proposed to incorporate chicanes, sharrows, and additional trees to calm traffic, provide for bicycles, and increase shade on the road for pedestrians. This treatment is proposed along North Bay Road from 63rd Street on the north to its intersection with Alton Road just north of Mount Sinai Medical Center. Additionally, roundabouts are proposed to be located at 63 Street and 56 Street along this segment of North Bay Road. Chicanes, sharrows and additional trees are also proposed for North Bay Road between Chase Avenue and south to 20th Street. Roundabouts are proposed to be located at 29 Street and 23 Street along this segment of North Bay Road.

INTRACOASTAL

NORTH BAY ROAD
ZONE 3

NORTH BAY ROAD
ZONE 2

NORTH BAY ROAD
ZONE 1

NORTH

Dimensionally, North Bay Road in all locations is recommended to remain at 22', with tapered 2' chicanes placed intermittently along the roadway in an alternating configuration. Chicanes are a treatment recommended in the 2016 Miami Beach Bicycle Pedestrian Master Plan (BPMP) for Neighborhood Greenways. Chicanes are defined in the BPMP as, "…a change in a street's path from straight to serpentine through the use of bump outs . A chicane is constructed to slow traffic and force yield conditions."

East/west cross streets entering North Bay Road are proposed for bioswale treatments to increase shade and aesthetic appeal. Bioswales could be placed either mid-block on the east/west cross streets or where appropriate along the street. The roadway will remain at 22' to accommodate emergency fire and service vehicles. Many driveways in this area are located mid-block, and bioswale installation would need to placed as allowed by driveways.

At 48th Street to North Bay Road/Lakeview Drive, where North Bay Road is segmented by Surprise Waterway, the Neighborhood Greenway would need to travel on Alton Road for a short distance along the bridge over Surprise Waterway. By narrowing the inside Alton Road travel lanes along the bridge by 2 feet and narrowing the sidewalk and gutter, a 5' bicycle lane can be created to connect the North Bay Road Neighborhood Greenway to the entrance to North Bay Road at 48 Street.

Two ways are suggested to continue the North Bay Road Neighborhood Greenway around Mount Sinai Medical Center. One concept which needs further study is a shared use path around Mount Sinai Medical Center, which would continue underneath the Julia Tuttle Causeway bridge, and then head east along the existing Julia Tuttle Causeway shared use path to the entrance of North Bay Road at Chase Avenue.

A second concept around Mount Sinai Medical Center proposes a buffered bi-directional bicycle lane along the east side of Old Alton Road between the intersection of Sullivan Drive and Chase Avenue. Extensive coordination with FDOT is needed for these concepts. Between the intersection of Alton Road and 43 Street along Old Alton Road to 41 Street, removal of the 9 parking spaces along the east side of the roadway are needed to accommodate the buffered bi-directional bicycle lane. Along Old Alton Road between 41 Street to the intersection of Alton and Chase Avenue, relocation of 4 spaces is needed to accommodate the bi-directional buffered bicycle lane. This can be accommodated by reconfiguring the parking on the north side of 39th Street from parallel parking to angled parking.

No other parking is anticipated to be displaced along the North Bay Road Neighborhood Greenway.

COST ESTIMATE SUMMARY | North Bay Road Neighborhood Greenways

North Bay Road- Cost Estimate Summary

NORTH BAY ROAD - SEGMENT 1		No. of Trees	Year 1	Year 2	Year 3	Year 4	Year 5
Roadways					*30% design*	*Construction*	
Area 1	$579,409.44	30			$173,822.83	$579,409.44	
Area 1 Cross Streets	$642,177.36	54			$192,653.21	$642,177.36	
Two (2) Traffic Circles	$400,000.00	4			$120,000.00	$400,000.00	
Sub-Total =	**$1,621,586.80**	**84**			**$486,476.04**	**$1,621,586.80**	
NORTH BAY ROAD - SEGMENT 2							
Roadways							
Area 2	$231,763.78	12			$69,529.13	$231,763.78	
Area 2 Cross Streets	$285,412.16	24			$85,623.65	$285,412.16	
Sub-Total =	**$517,175.94**	**36**			**$155,152.78**	**$517,175.94**	
NORTH BAY ROAD - SEGMENT 3							
Roadways							
Area 3	$289,704.72	15			$86,911.42	$289,704.72	
Area 3 Cross Streets	$356,765.20	30			$107,029.56	$356,765.20	
Two (2) Traffic Circles	$400,000.00	4			$120,000.00	$400,000.00	
Sub-Total =	**$1,046,469.92**	**45**			**$313,940.98**	**$1,046,469.92**	
TOTAL Demo & Construction =	**$3,185,232.66**	**165**					
Total incl 30% Design Costs =	**$4,140,802.46**				**$955,569.80**	**$3,185,232.66**	

PLANNING AREAS

Alton Road traffic volumes between 63rd Street and Dade Boulevard are very high leading to commuter traffic routing through neighborhoods and creating an unfriendly environment for bicyclists and pedestrians. Creating neighborhood greenways will calm traffic and encourage walking and bicycling in this area.

The City of Miami Beach Transportation Master Plan supports this idea and recommended establishing North Bay Road as part of the Neighborhood Greenway network approved in the 2016 Miami Beach Transportation Master Plan.

Project Approach

Our project approach seeks to plan, develop and implement a context-sensitive Neighborhood Greenway Plan for North Bay Road that provides multi-modal transportation connectivity through a feasibility-focused planning framework and process.

Project Area

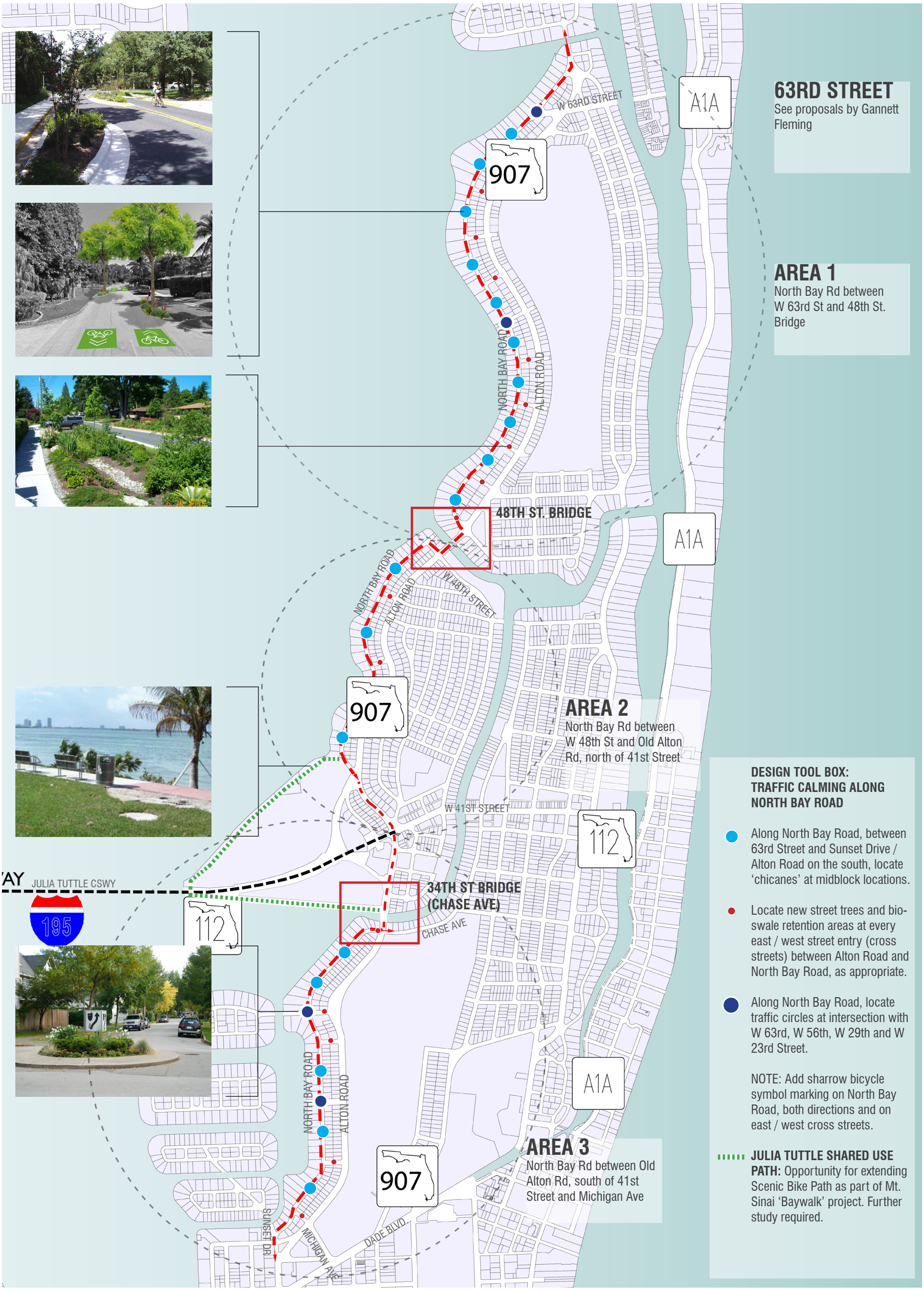
The project area for the North Bay Road Neighborhood Greenway encompasses (3) three segments of North Bay Road as follows:

1. LaGorce Island Bridge south to Lakeview Drive.
    a. LaGorce Island is not included.
    b. Coordination with the FDOT Alton Road project is included regarding the Alton Road Bicycle Connector (bridge enhancements) at the bridge between Lakeview Drive and 48th Street.
2. 48th Street south to 41st Street
3. Chase Avenue south to 20th Street

A companion booklet recommends concepts for Alton Road improvements. There is an opportunity to coordinate with the following FDOT improvements projects for Alton Road:

FDOT FM#'s For The Alton Road Project

#4365351	**#4291931**	**#4304441**
#4401781	**#4291932**	**#4304442**
	#4291933	**#4304443**
	#4291934	
	#4291935	



63RD STREET

See proposals by Gannett Fleming

AREA 1

North Bay Rd between W 63rd St and 48th St. Bridge

AREA 2

North Bay Rd between W 48th St and Old Alton Rd, north of 41st Street

AREA 3

North Bay Rd between Old Alton Rd, south of 41st Street and Michigan Ave

DESIGN TOOL BOX: TRAFFIC CALMING ALONG NORTH BAY ROAD

- Along North Bay Road, between 63rd Street and Sunset Drive / Alton Road on the south, locate ‘chicanes’ at midblock locations.
- Locate new street trees and bio-swale retention areas at every east / west street entry (cross streets) between Alton Road and North Bay Road, as appropriate.
- Along North Bay Road, locate traffic circles at intersection with W 63rd, W 56th, W 29th and W 23rd Street.

  NOTE: Add sharrow bicycle symbol marking on North Bay Road, both directions and on east / west cross streets.
- **JULIA TUTTLE SHARED USE PATH:** Opportunity for extending Scenic Bike Path as part of Mt. Sinai ‘Baywalk’ project. Further study required.

EXISTING CONDITIONS | PHOTO INVENTORY







STOP



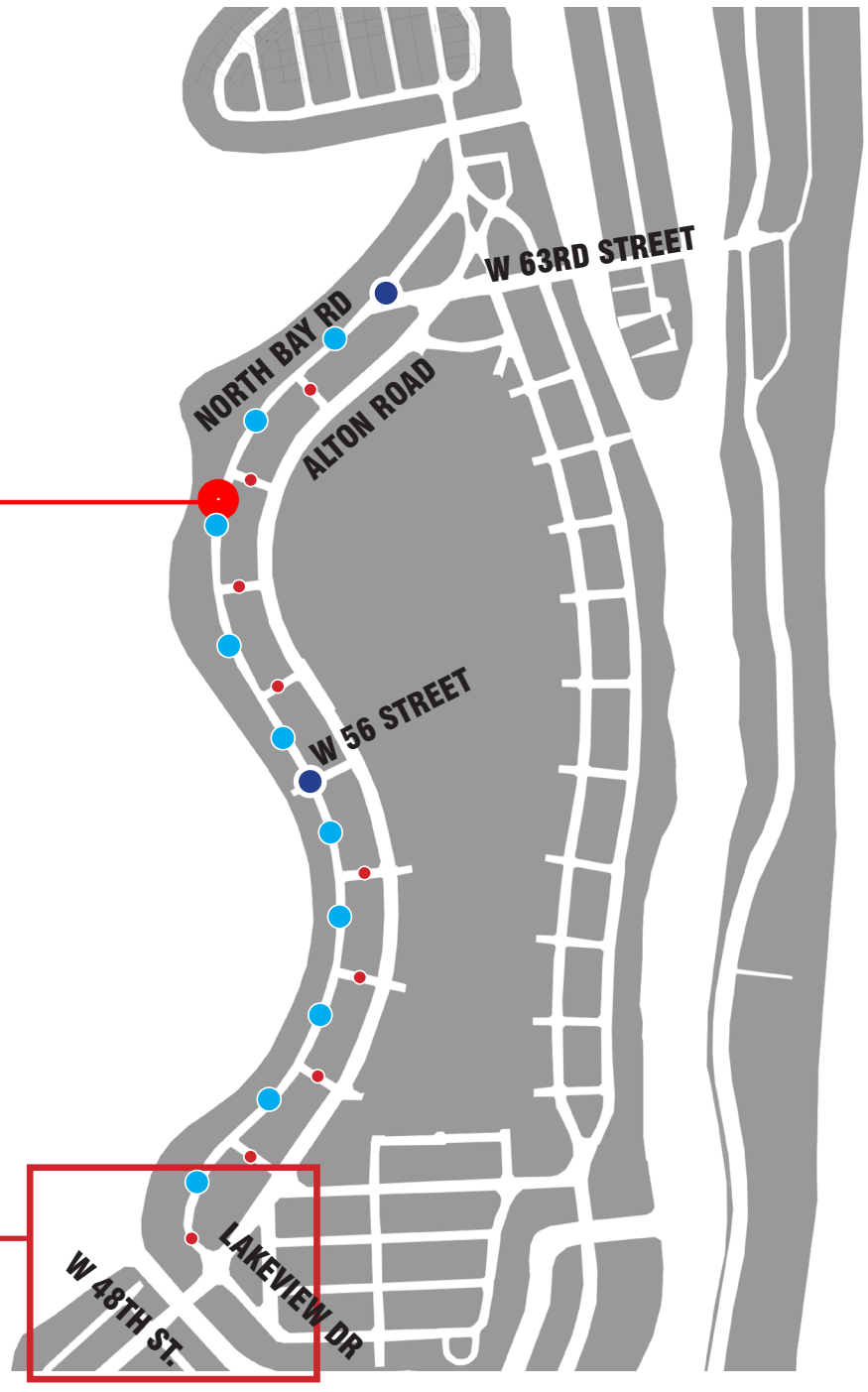


NORTH BAY ROAD AREA 1 | Segment 1

North Bay Road Neighborhood Greenways: North Bay Road
PROPOSED TRAFFIC CALMING MEASURES

NORTH BAY ROAD SEG 1

BRIDGE AT W 48TH STREET
Refer to Page 26.



DESIGN TOOL BOX:
TRAFFIC CALMING ALONG NORTH BAY ROAD

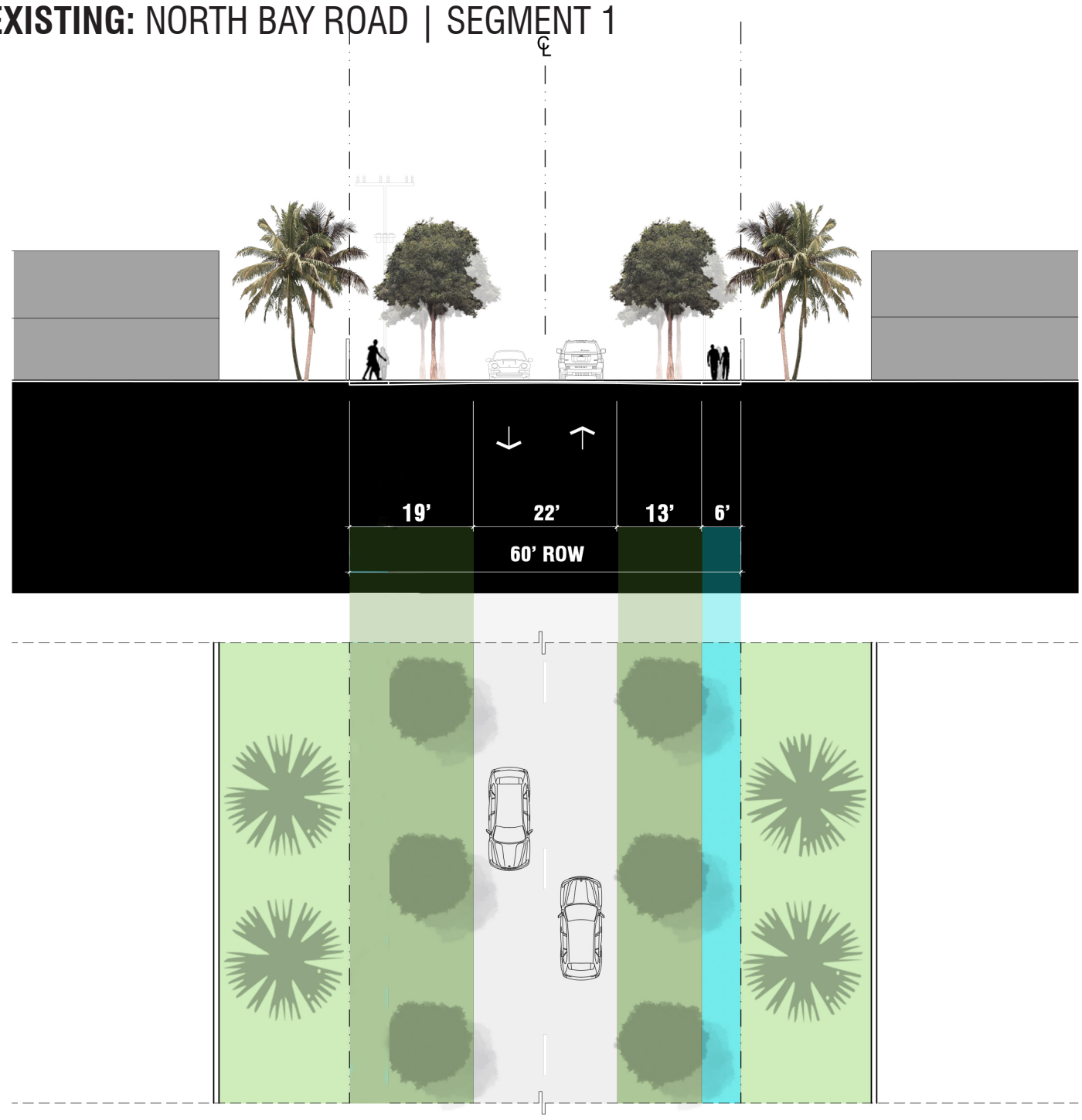
- Along North Bay Road, between 63rd Street and Sunset Drive / Alton Road, locate ‘chicanes’ as appropriate at midblock locations.
- Traffic Calming at all east / west cross streets running perpendicular to Alton Road. Location of proposed new landscaping including bioswale retention areas to be determined based on existing driveway locations and trash pickup areas.
- Along North Bay Road, locate new traffic circles at intersections of roadway with W 63rd, W 56th, W 29th and W 23rd Streets.
- Add bicycle symbol marking on North Bay Road, both directions.

NORTH BAY ROAD | Typical Traffic Calming

Existing North Bay Road Street View

Proposed “chicane” for Traffic Calming

EXISTING: NORTH BAY ROAD | SEGMENT 1



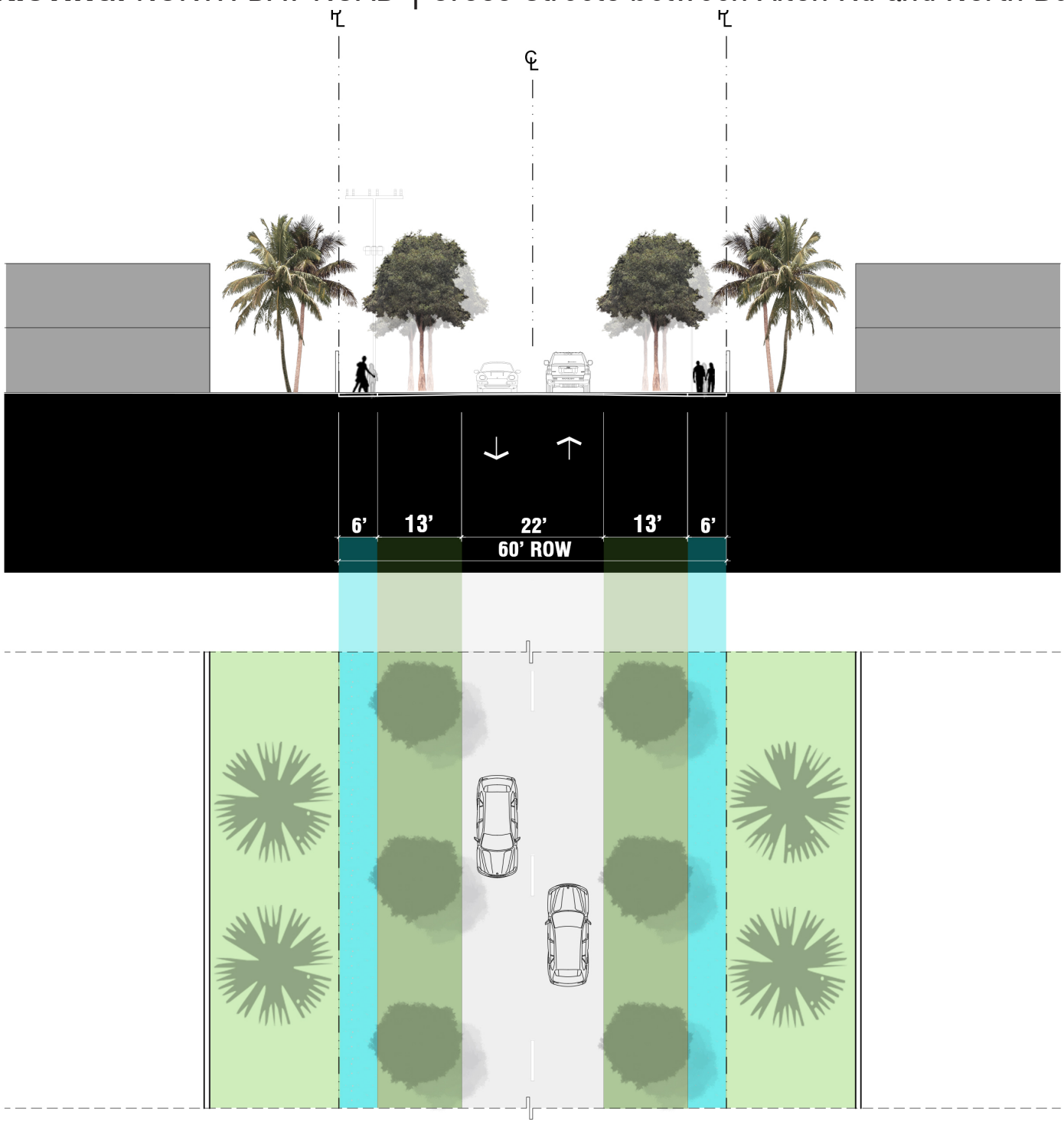
PROPOSED: NORTH BAY ROAD | SEGMENT 1 Traffic Calming with ‘Chicane’

Proposed Landscaping and Traffic Calming:

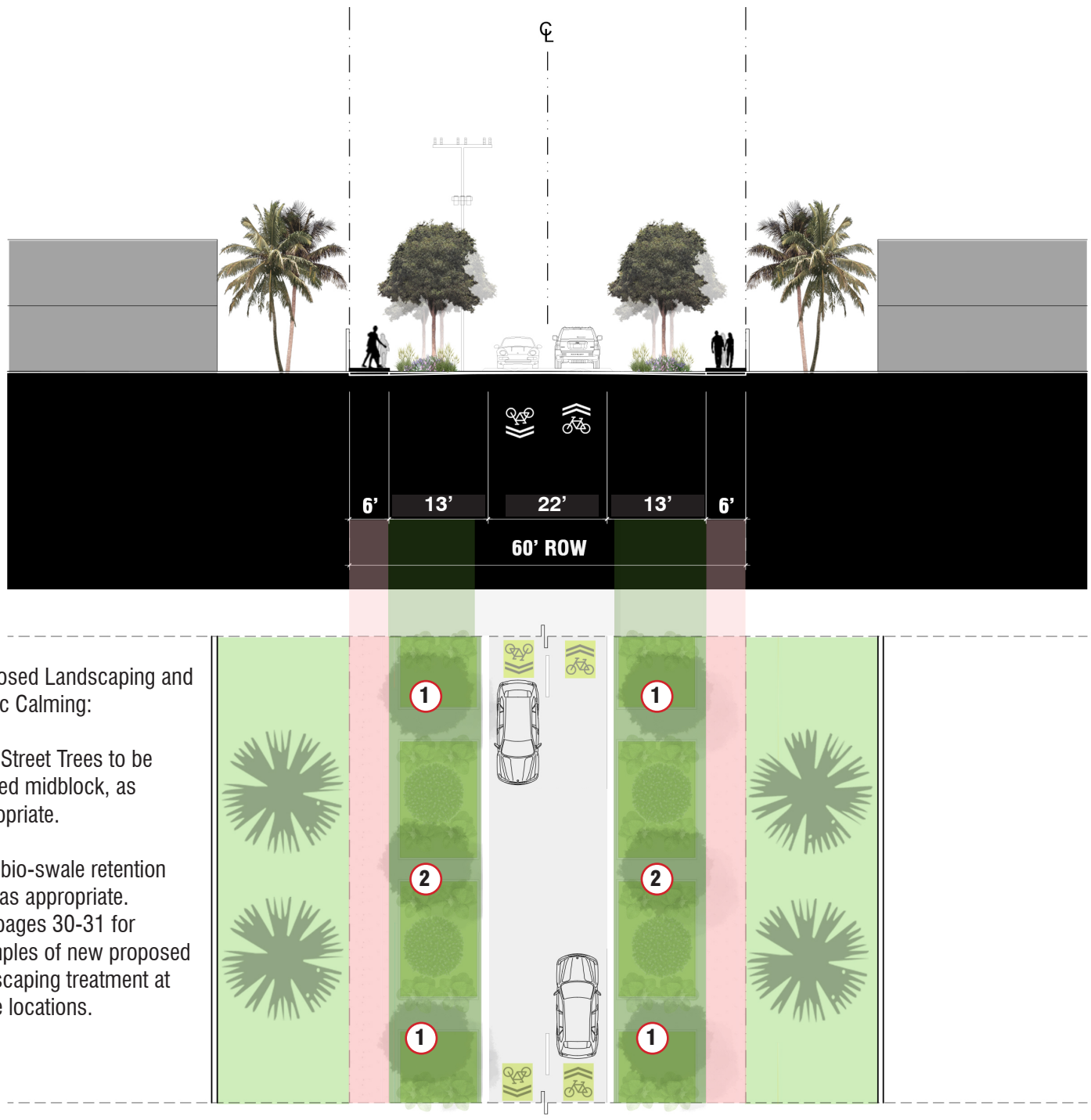
1. Proposed “chicane” to be located midblock for traffic calming along North Bay Road.

2. New street trees as appropriate. See pages 30-31 for examples of new proposed landscaping treatment at these locations.

EXISTING: NORTH BAY ROAD | *Cross Streets between Alton Rd and North Bay Rd*



PROPOSED: NORTH BAY ROAD | Traffic Calming at *Cross Streets*



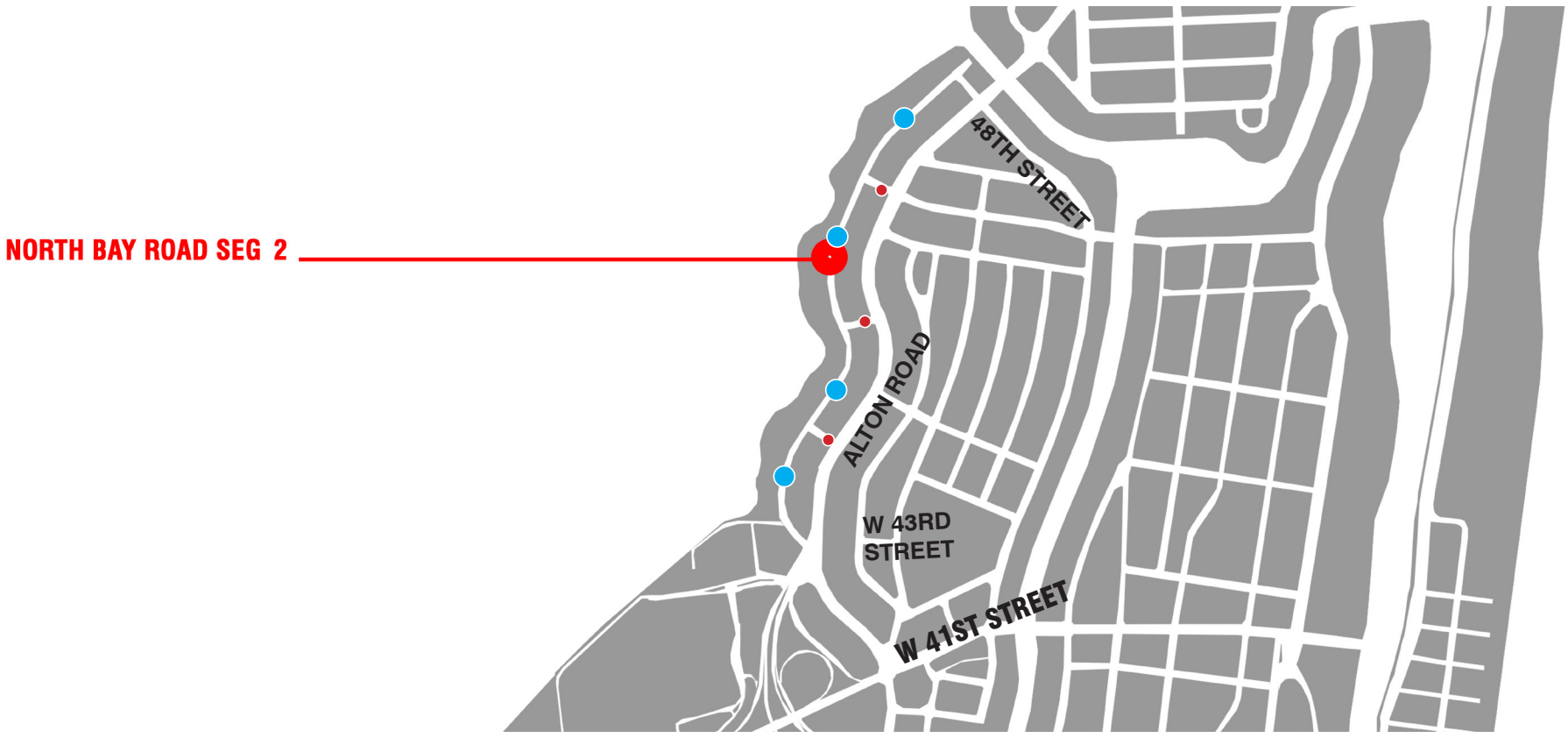
Proposed Landscaping and Traffic Calming:

1. New Street Trees to be located midblock, as appropriate.
2. New bio-swale retention area as appropriate. See pages 30-31 for examples of new proposed landscaping treatment at these locations.

NORTH BAY ROAD AREA 2 | SEGMENT 2

BETWEEN 48TH STREET AND ALTON ROAD

North Bay Road Neighborhood Greenways: North Bay Road
PROPOSED TRAFFIC CALMING MEASURES



DESIGN TOOL BOX:
TRAFFIC CALMING ALONG NORTH BAY ROAD

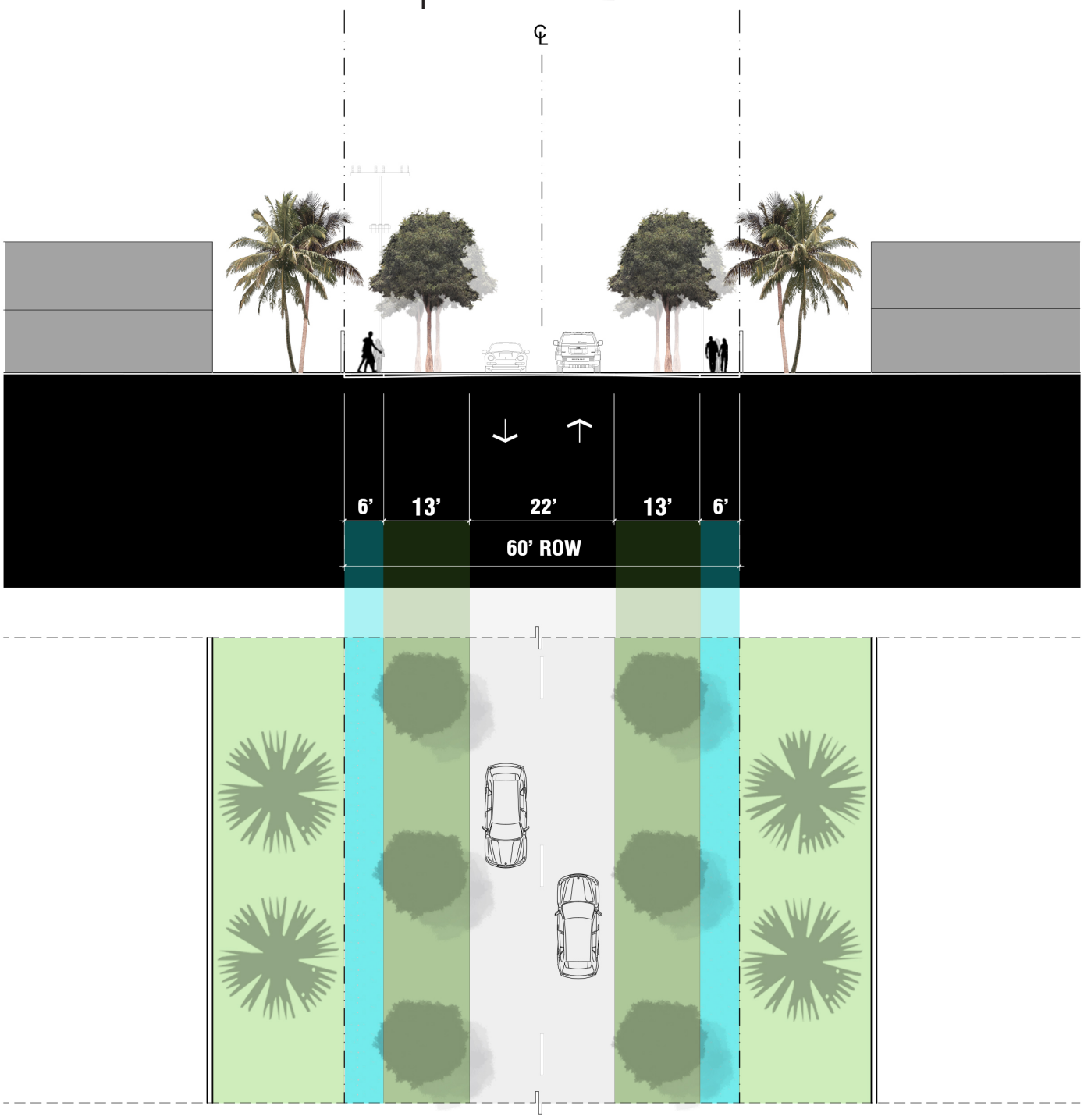
- Along North Bay Road, between 63rd Street and Sunset Drive / Alton Road, locate ‘chicanes’ as appropriate at midblock locations.
- Traffic Calming at all east / west cross streets running perpendicular to Alton Road. Location of proposed new landscaping including bioswale retention areas to be determined based on existing driveway locations and trash pickup areas.
- Along North Bay Road, locate new traffic circles at intersections of roadway with W 63rd, W 56th, W 29th and W 23rd Streets.
- Add bicycle symbol marking on North Bay Road, both directions.

NORTH BAY ROAD | Typical Traffic Calming

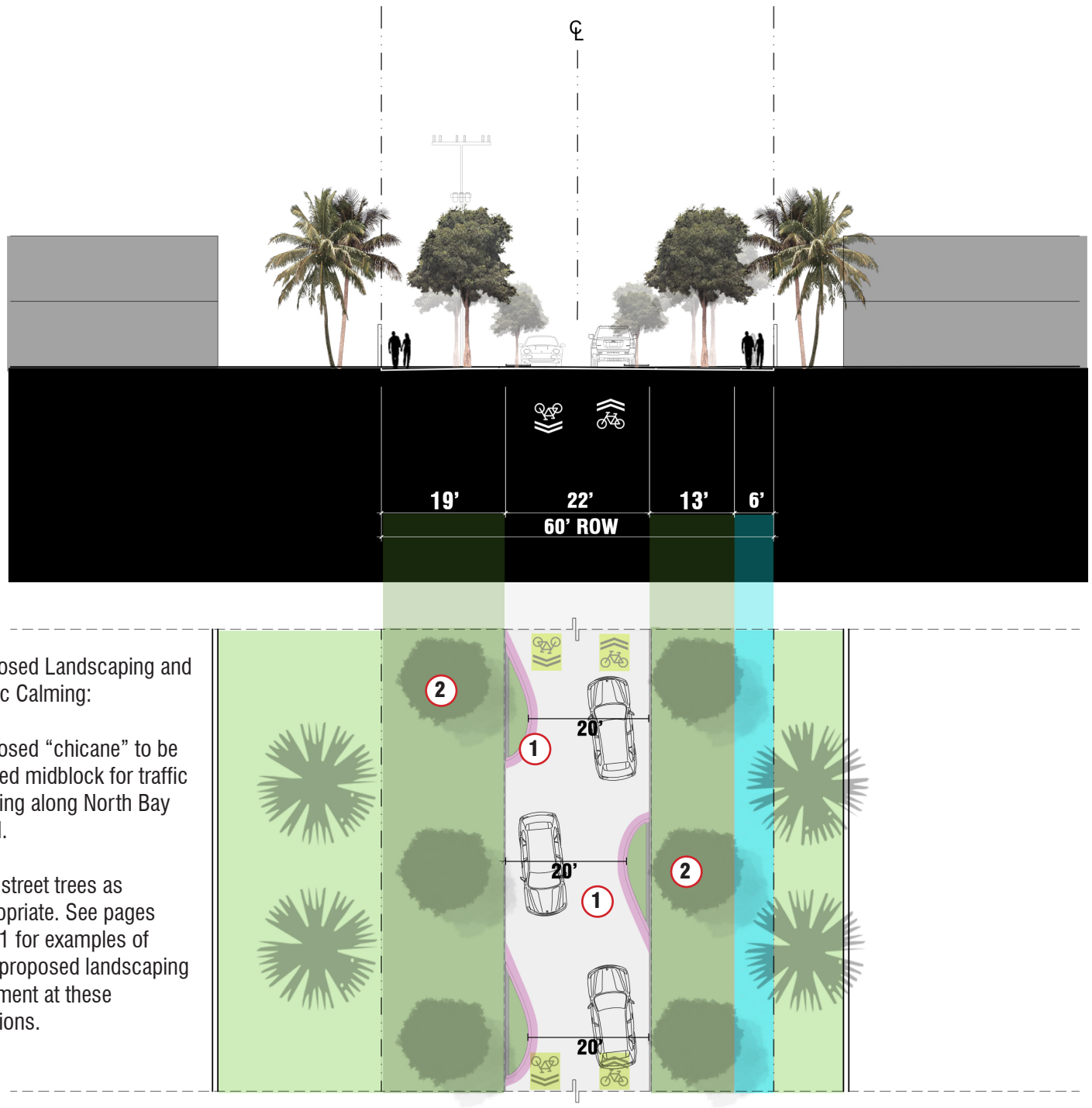
Existing North Bay Road Street View

Proposed “chicane” for Traffic Calming

EXISTING: NORTH BAY ROAD | SEGMENT 2



PROPOSED: NORTH BAY ROAD | SEGMENT 2 Traffic Calming with ‘Chicane’

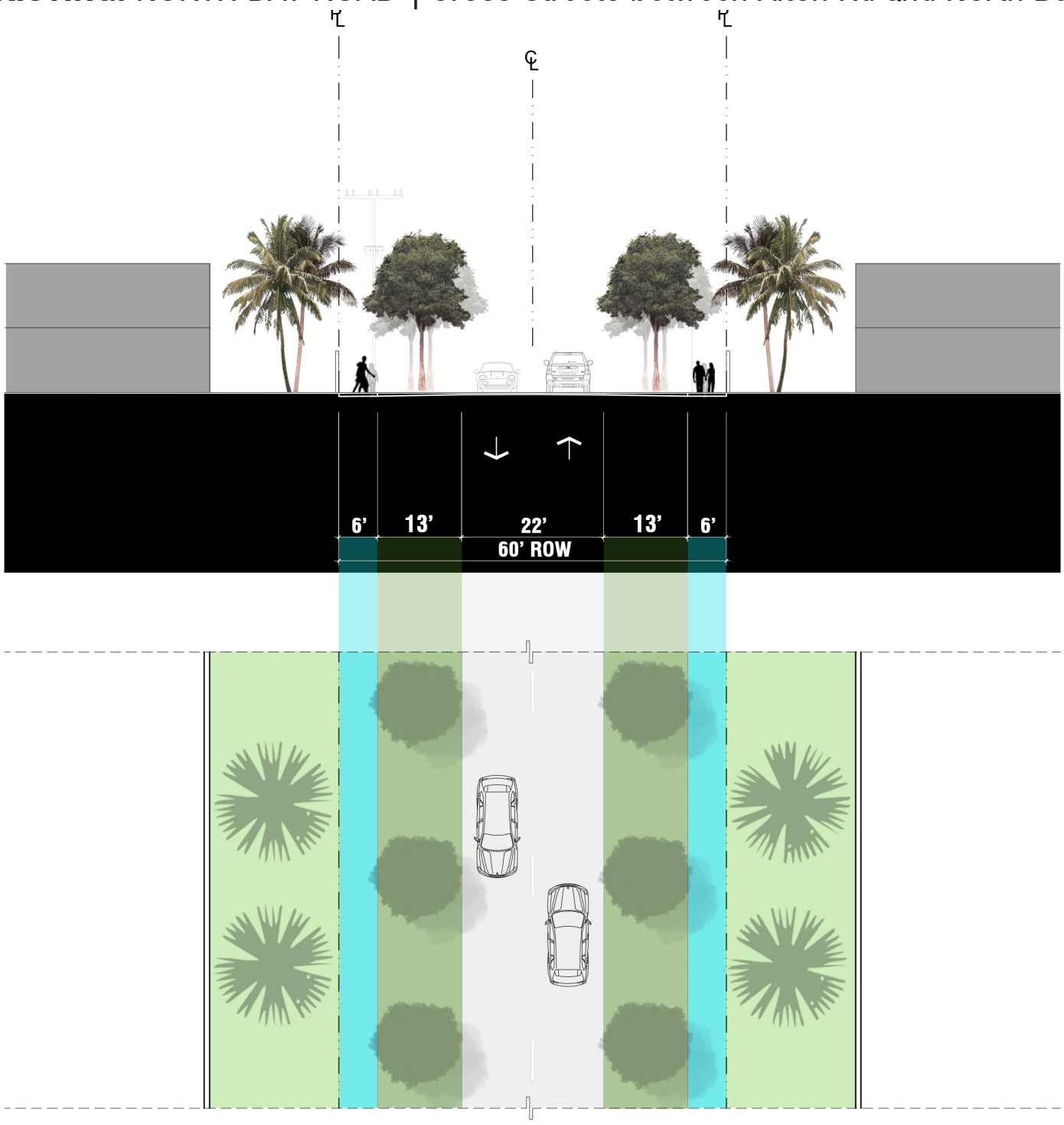


Proposed Landscaping and Traffic Calming:

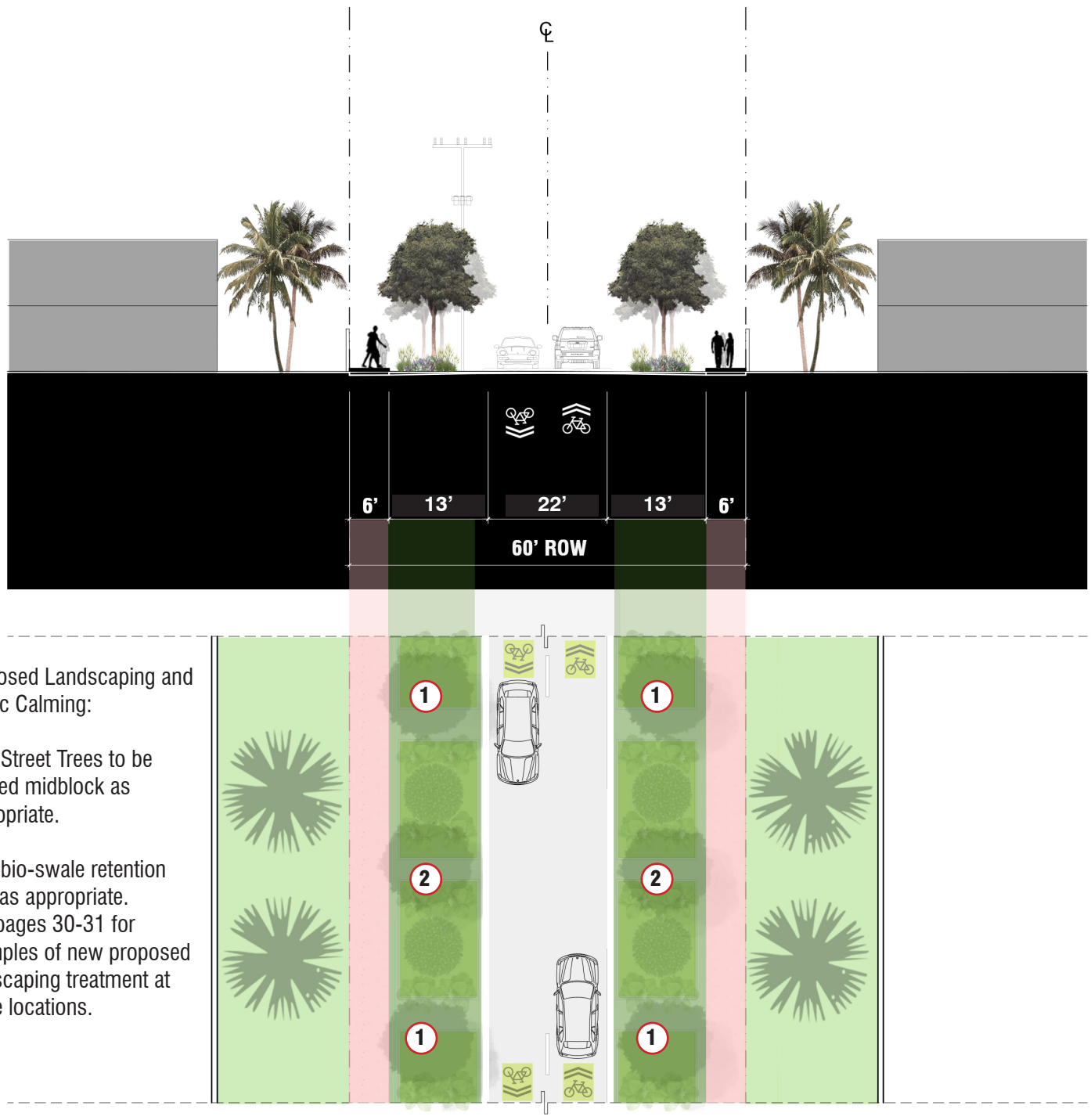
1. Proposed “chicane” to be located midblock for traffic calming along North Bay Road.

2. New street trees as appropriate. See pages 30-31 for examples of new proposed landscaping treatment at these locations.

EXISTING: NORTH BAY ROAD | *Cross Streets between Alton Rd and North Bay Rd*



PROPOSED: NORTH BAY ROAD | Traffic Calming at *Cross Streets*

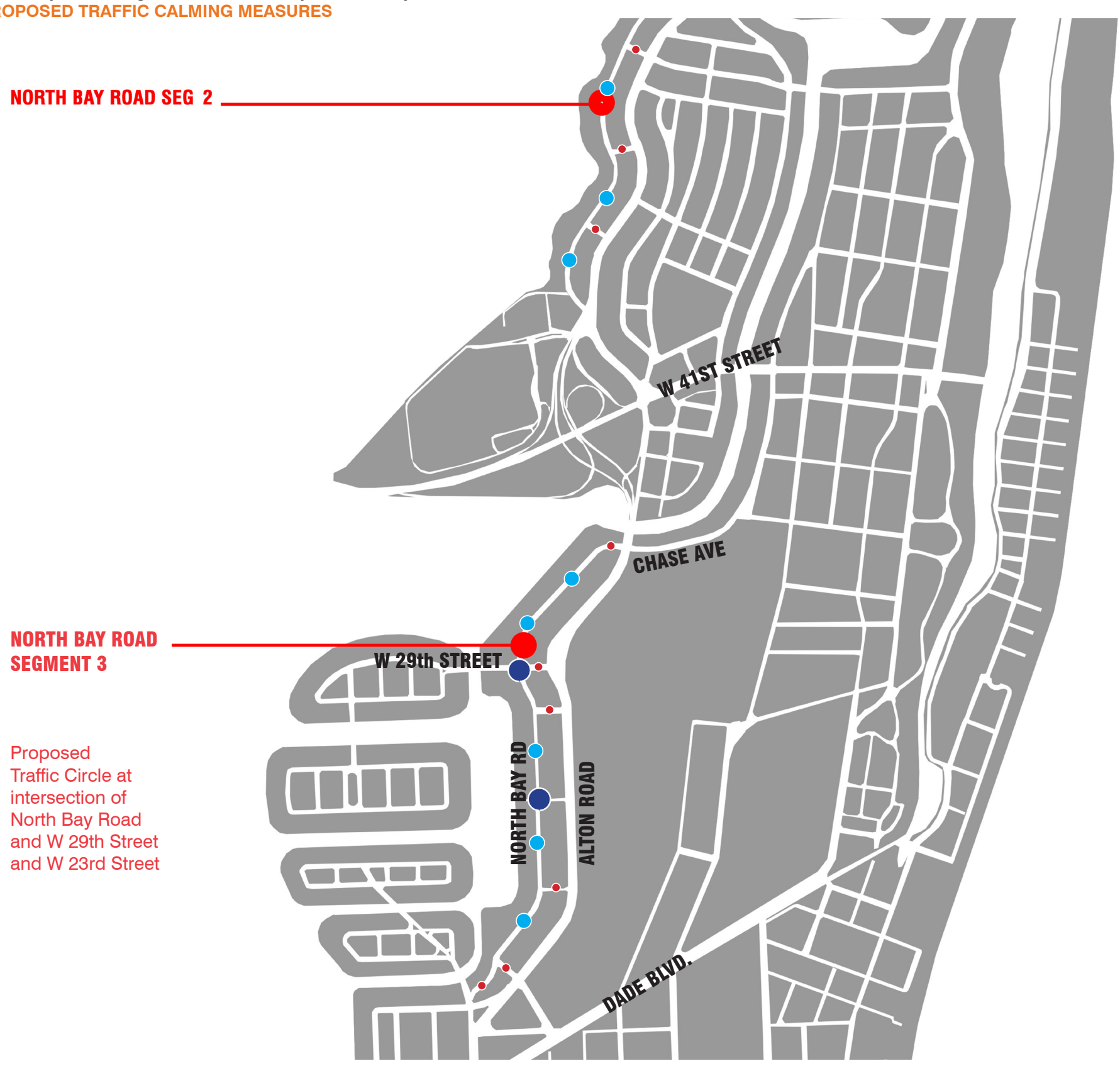


Proposed Landscaping and Traffic Calming:

1. New Street Trees to be located midblock as appropriate.
2. New bio-swale retention area as appropriate. See pages 30-31 for examples of new proposed landscaping treatment at these locations.

NORTH BAY ROAD AREA 3 | Segment 3

North Bay Road Neighborhood Greenways: North Bay Road
PROPOSED TRAFFIC CALMING MEASURES



DESIGN TOOL BOX:
TRAFFIC CALMING ALONG NORTH BAY ROAD

- Along North Bay Road, between 63rd Street and Sunset Drive / Alton Road, locate ‘chicanes’ as appropriate at midblock locations.
- Traffic Calming at all east / west cross streets running perpendicular to Alton Road. Location of proposed new landscaping including bioswale retention areas to be determined based on existing driveway locations and trash pickup areas.
- Along North Bay Road, locate new traffic circles at intersections of roadway with W 63rd, W 56th, W 29th and W 23rd Streets.

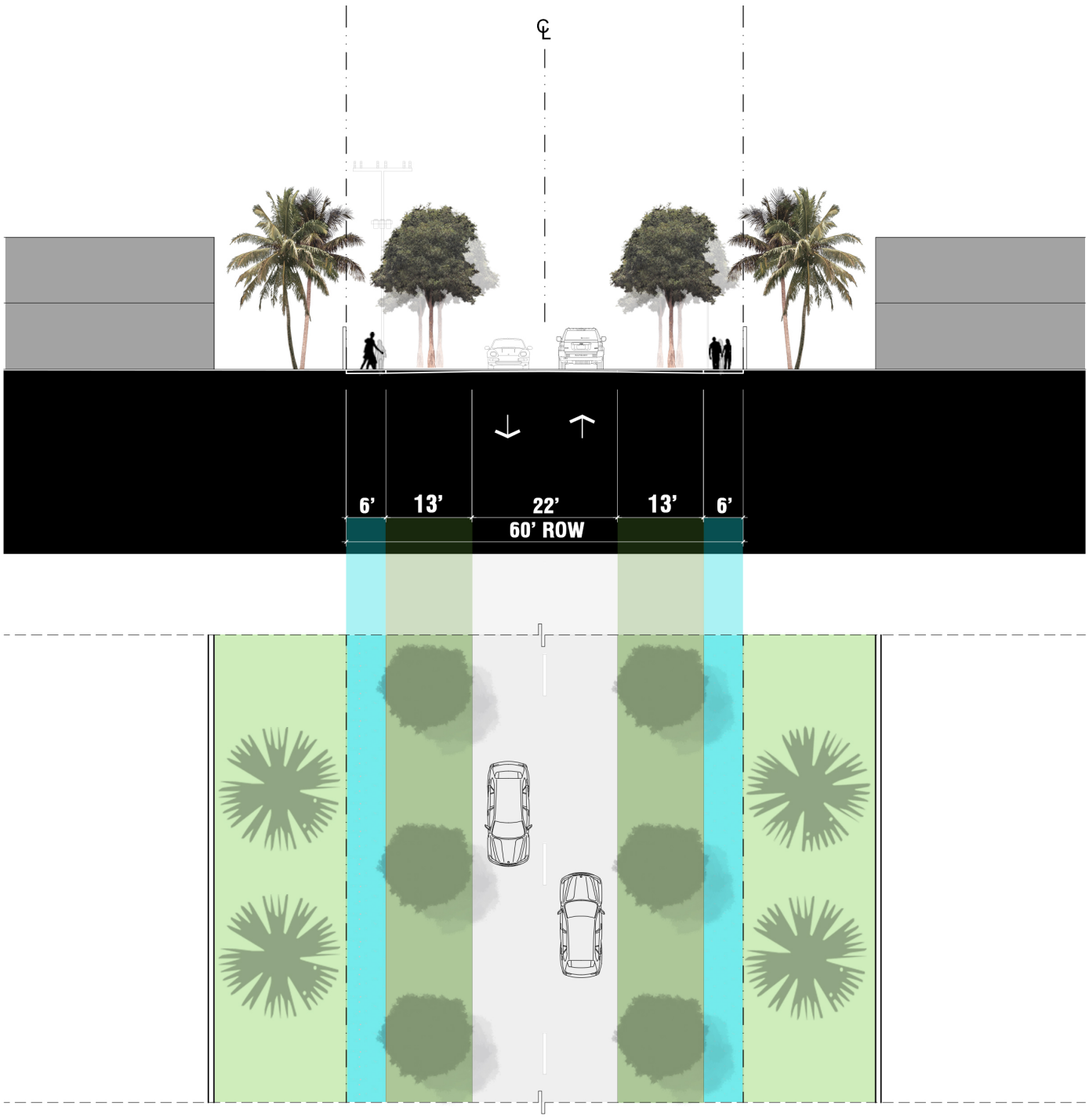
Add bicycle symbol marking on North Bay Road, both directions.

NORTH BAY ROAD | Typical Traffic Calming

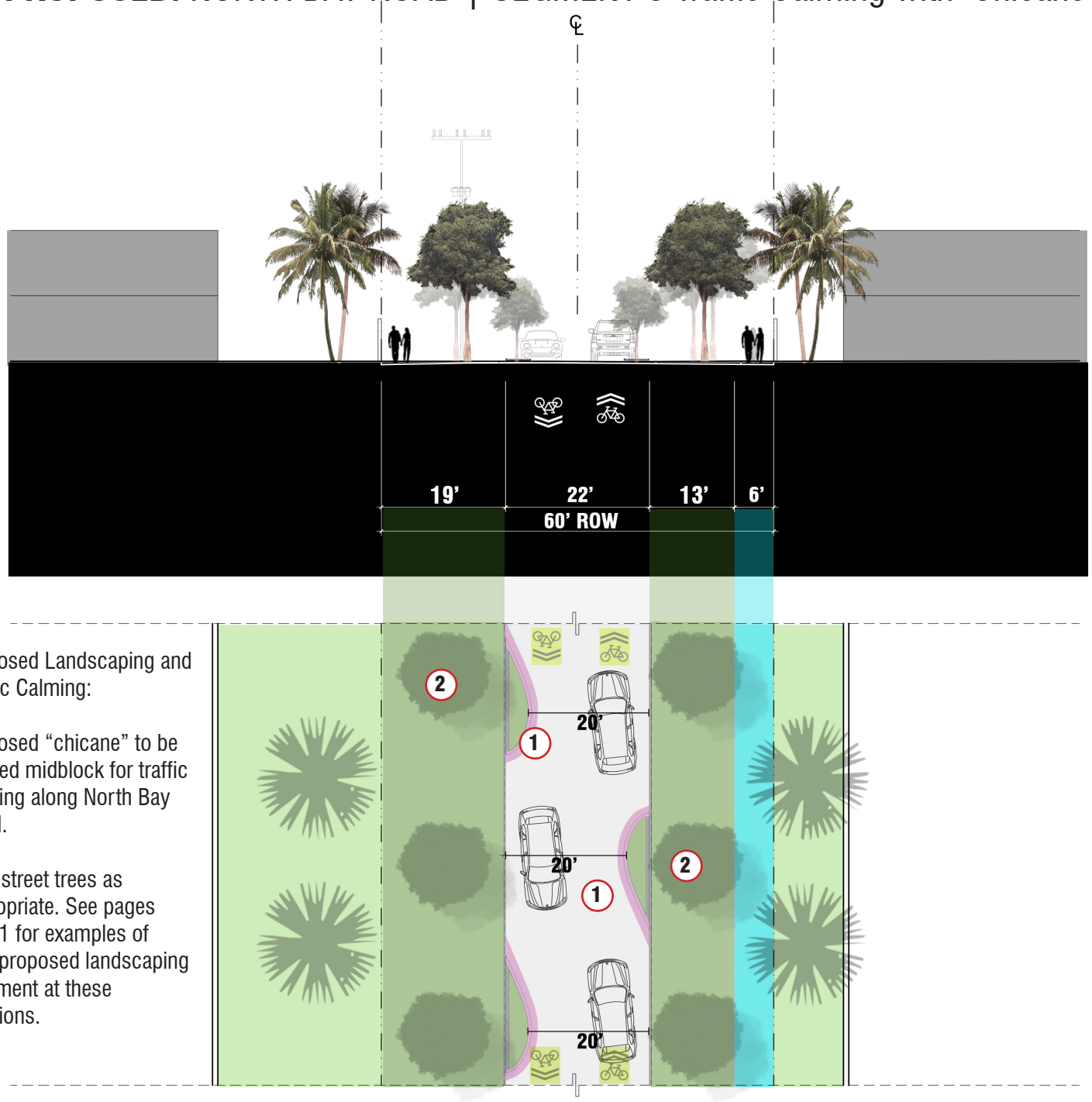
Existing North Bay Road Street View

Proposed “chicane” for Traffic Calming

EXISTING: NORTH BAY ROAD | SEGMENT 3



PROPOSED: NORTH BAY ROAD | SEGMENT 3 Traffic Calming with ‘Chicane’

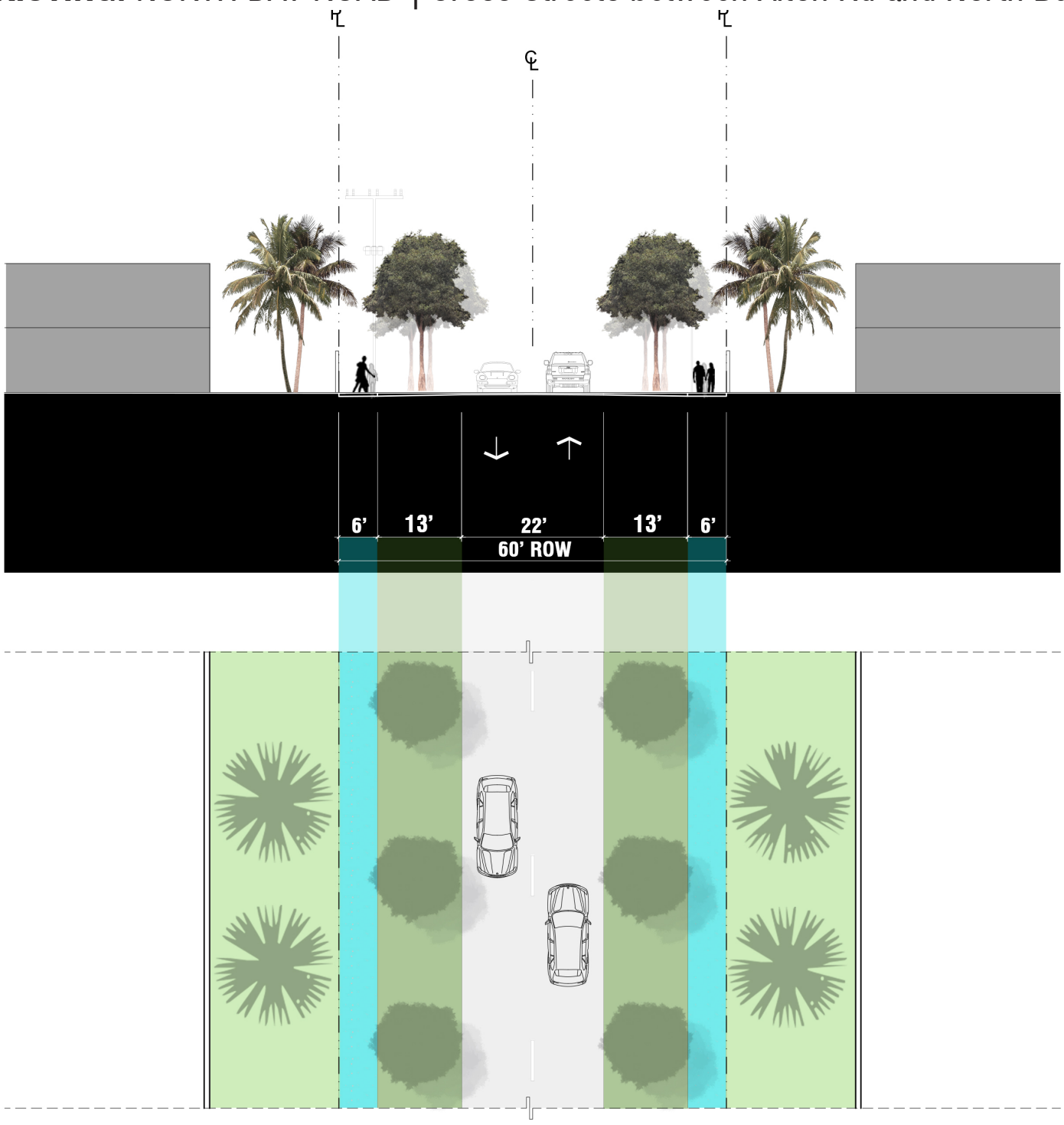


Proposed Landscaping and Traffic Calming:

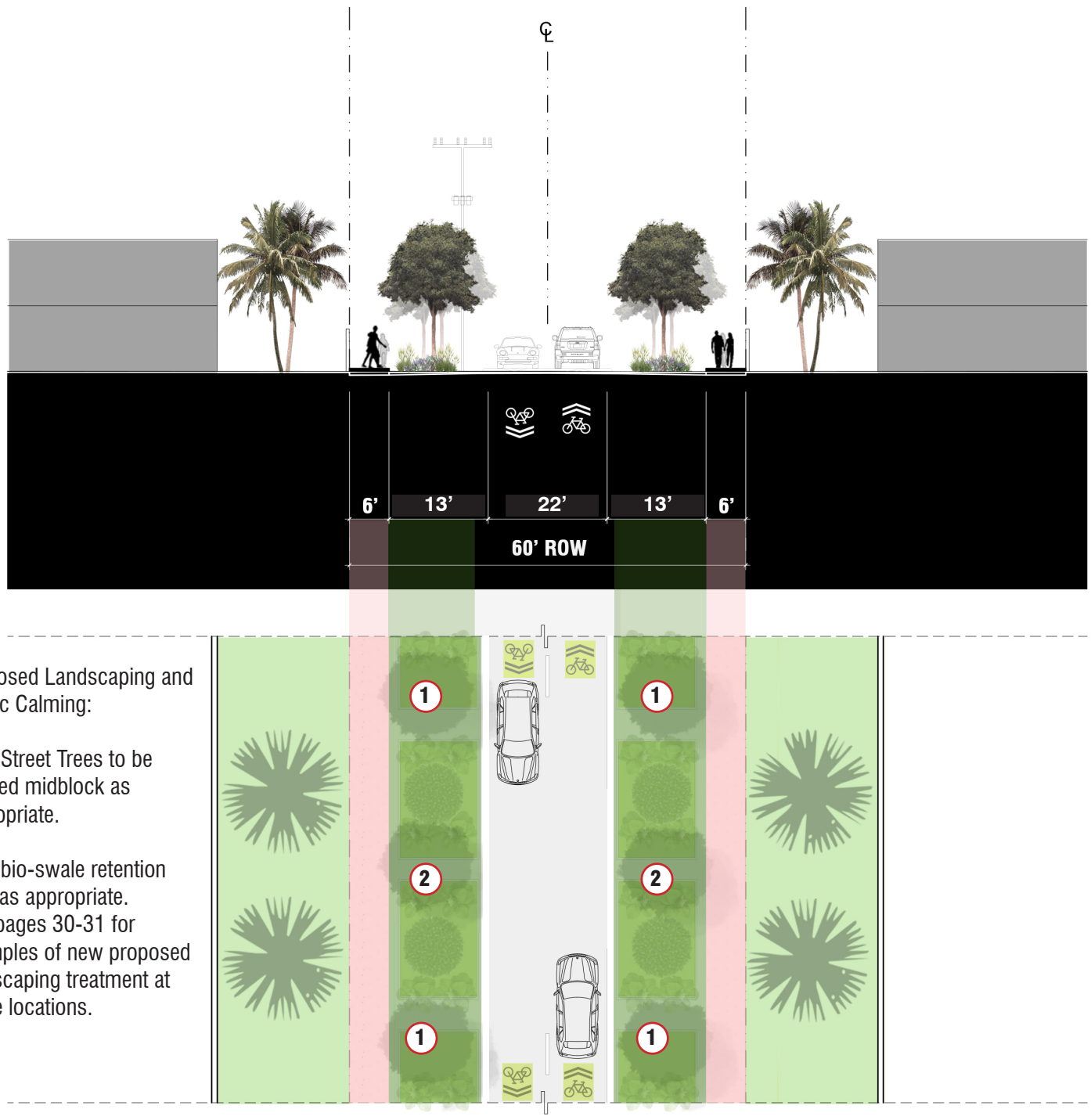
1. Proposed “chicane” to be located midblock for traffic calming along North Bay Road.

2. New street trees as appropriate. See pages 30-31 for examples of new proposed landscaping treatment at these locations.

EXISTING: NORTH BAY ROAD | *Cross Streets between Alton Rd and North Bay Rd*



PROPOSED: NORTH BAY ROAD | Traffic Calming at *Cross Streets*



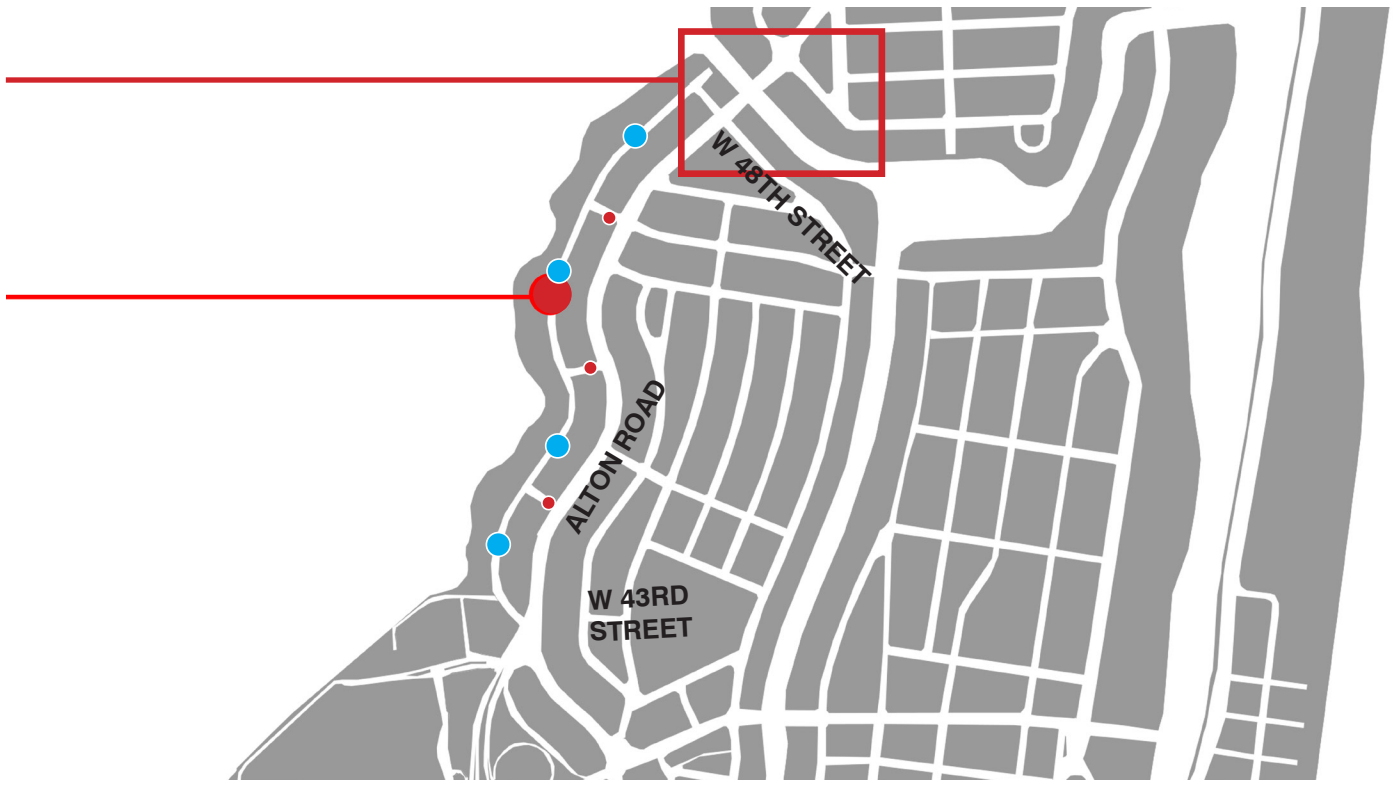
Proposed Landscaping and Traffic Calming:

1. New Street Trees to be located midblock as appropriate.
2. New bio-swale retention area as appropriate. See pages 30-31 for examples of new proposed landscaping treatment at these locations.

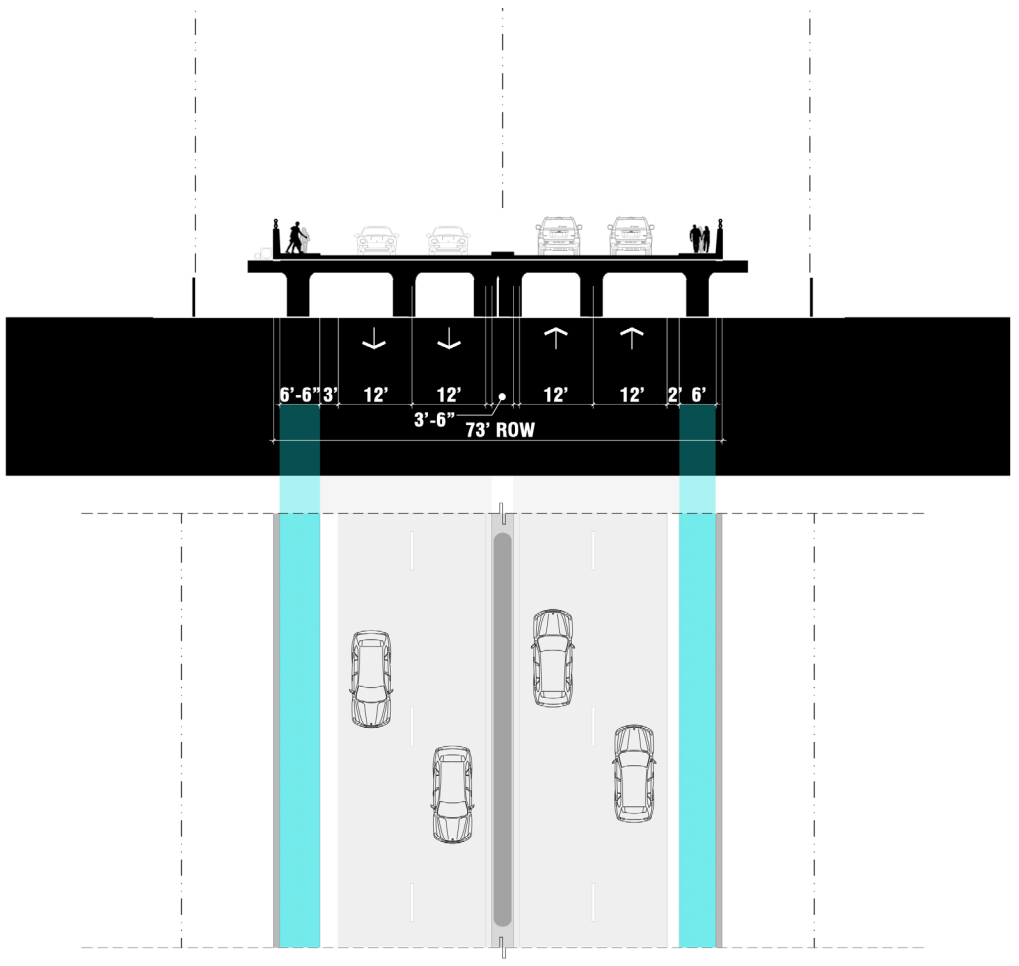
ALTON ROAD | Bridge 1 at W 48th STREET (Surprise Waterway)

BRIDGE AT W 48TH STREET
See Sections below

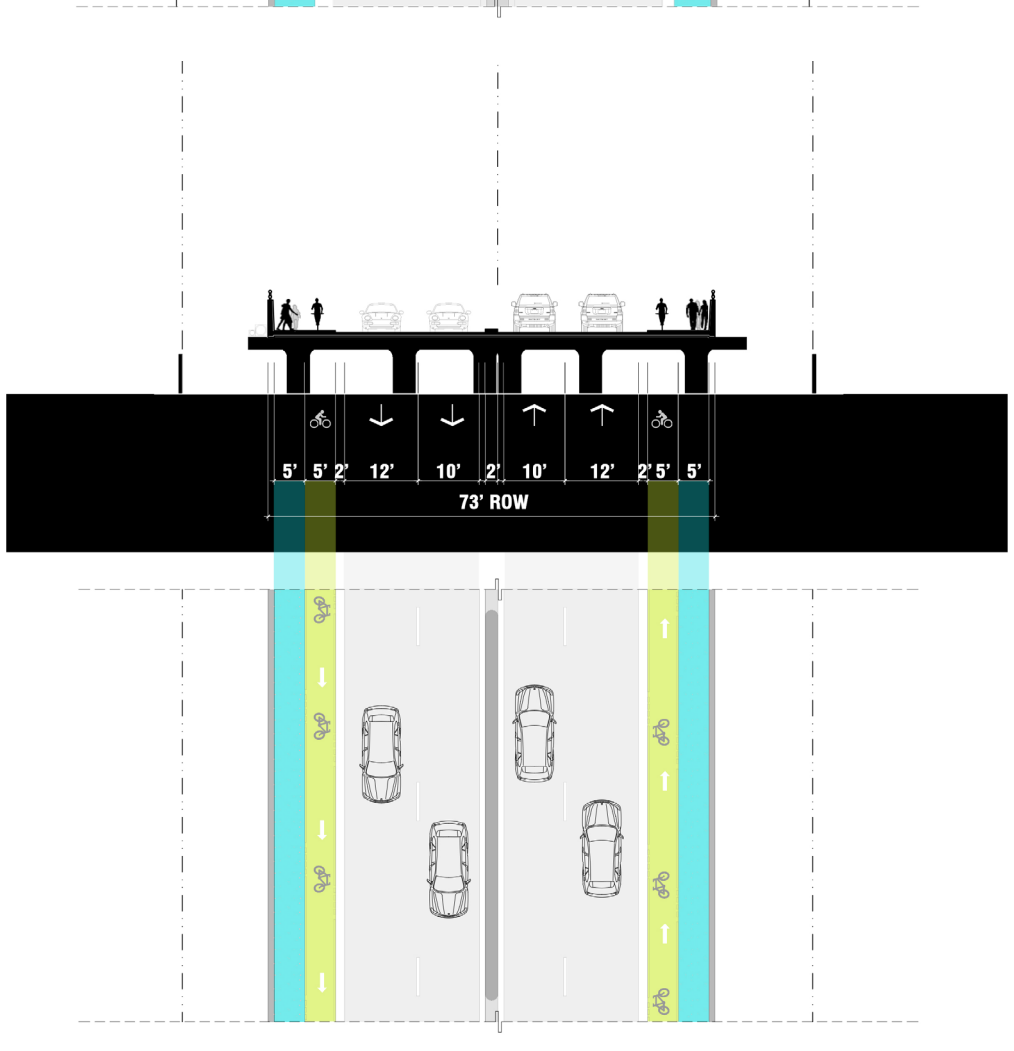
NORTH BAY ROAD SEGMENT 2
(Refer to pages 16, 17 and 18)



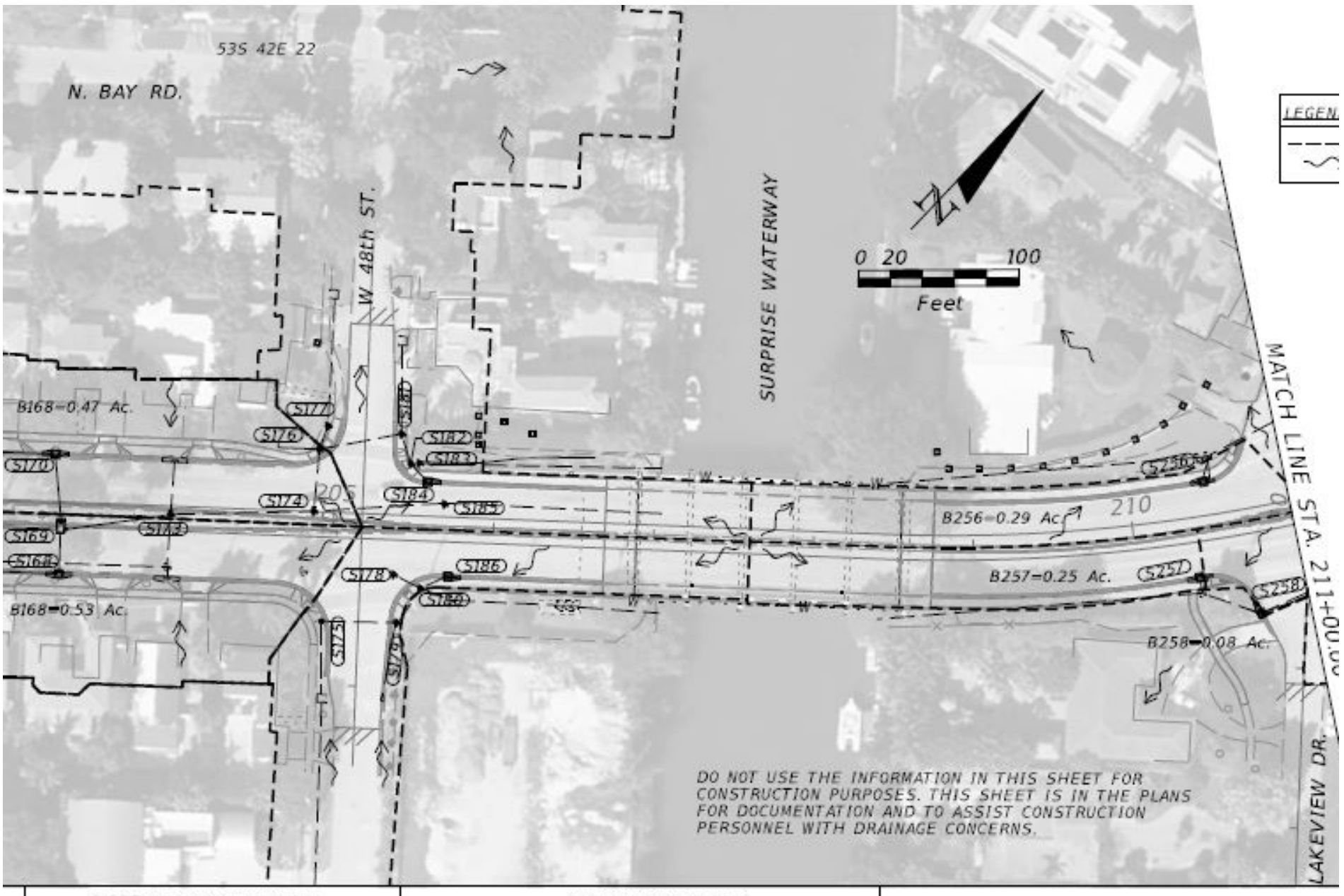
EXISTING:
ALTON ROAD | BRIDGE 1 AT W 48TH STREET



PROPOSED:
ALTON ROAD | Bridge at W 48th Street with Separated Protected Bike Lanes



PLAN VIEW: Existing and Proposed Bridge 1 at W 48th Street



RIBBECK ENGINEERING, INC.	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
14335 SW 120 STREET, SUITE 205 MIAMI, FLORIDA 33186 TEL. (305) 383-5909 FBPE C.A. NO. 27592	ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CARLOS F. RIBBECK, P.E. LICENSE NO. 50543	907	MIAMI-DADE	430444-1-52-01

DRAINAGE MAP

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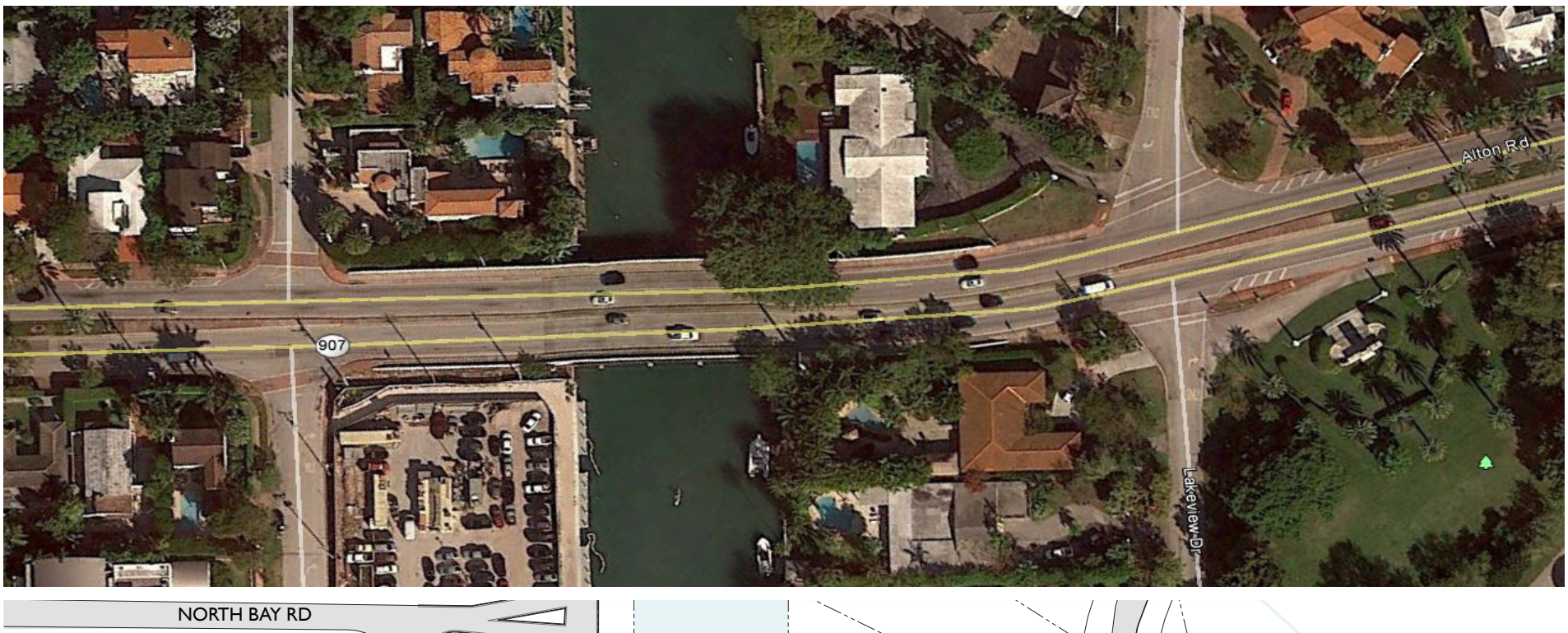
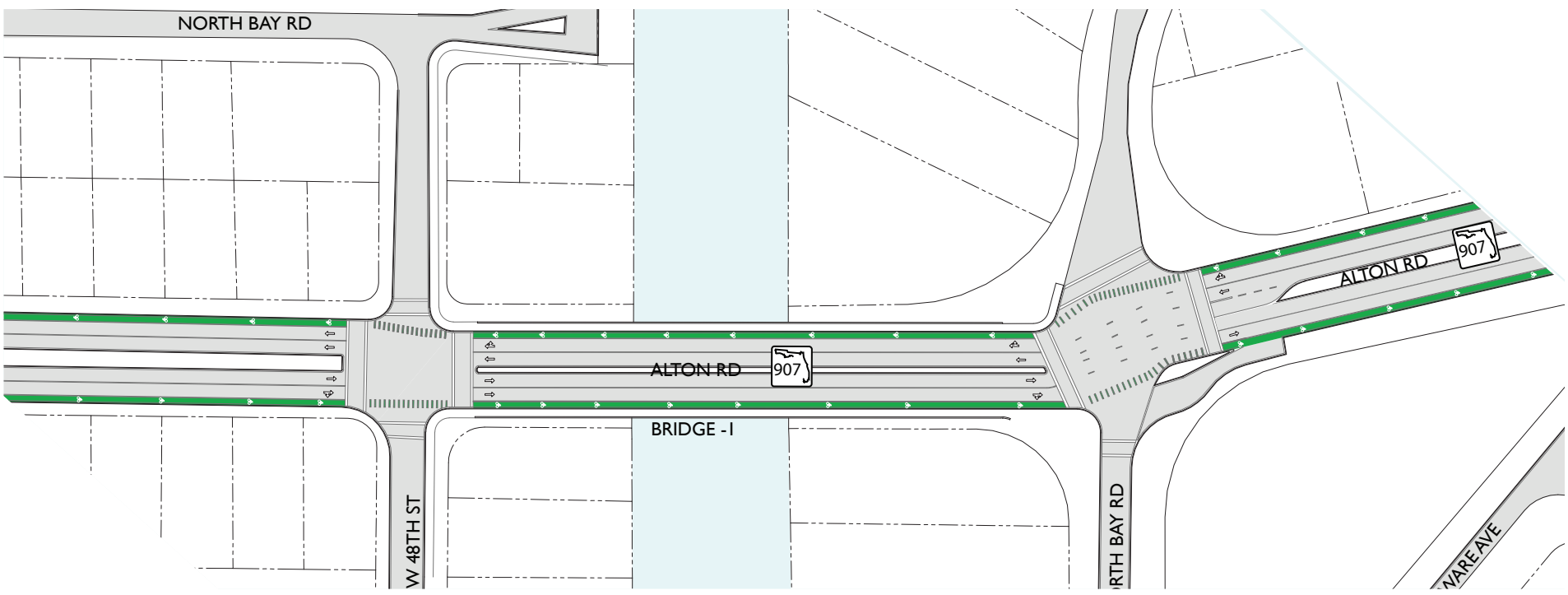
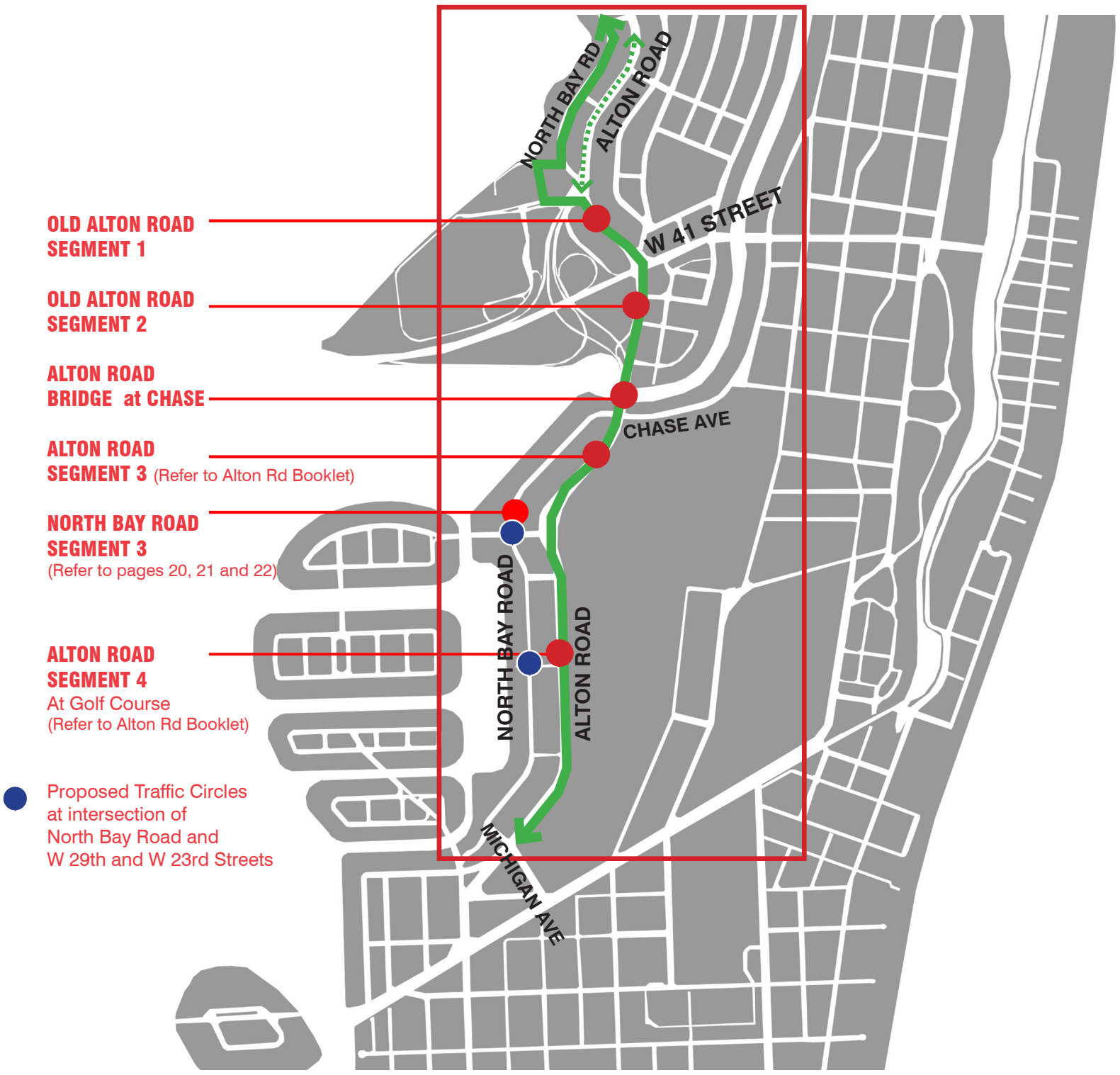
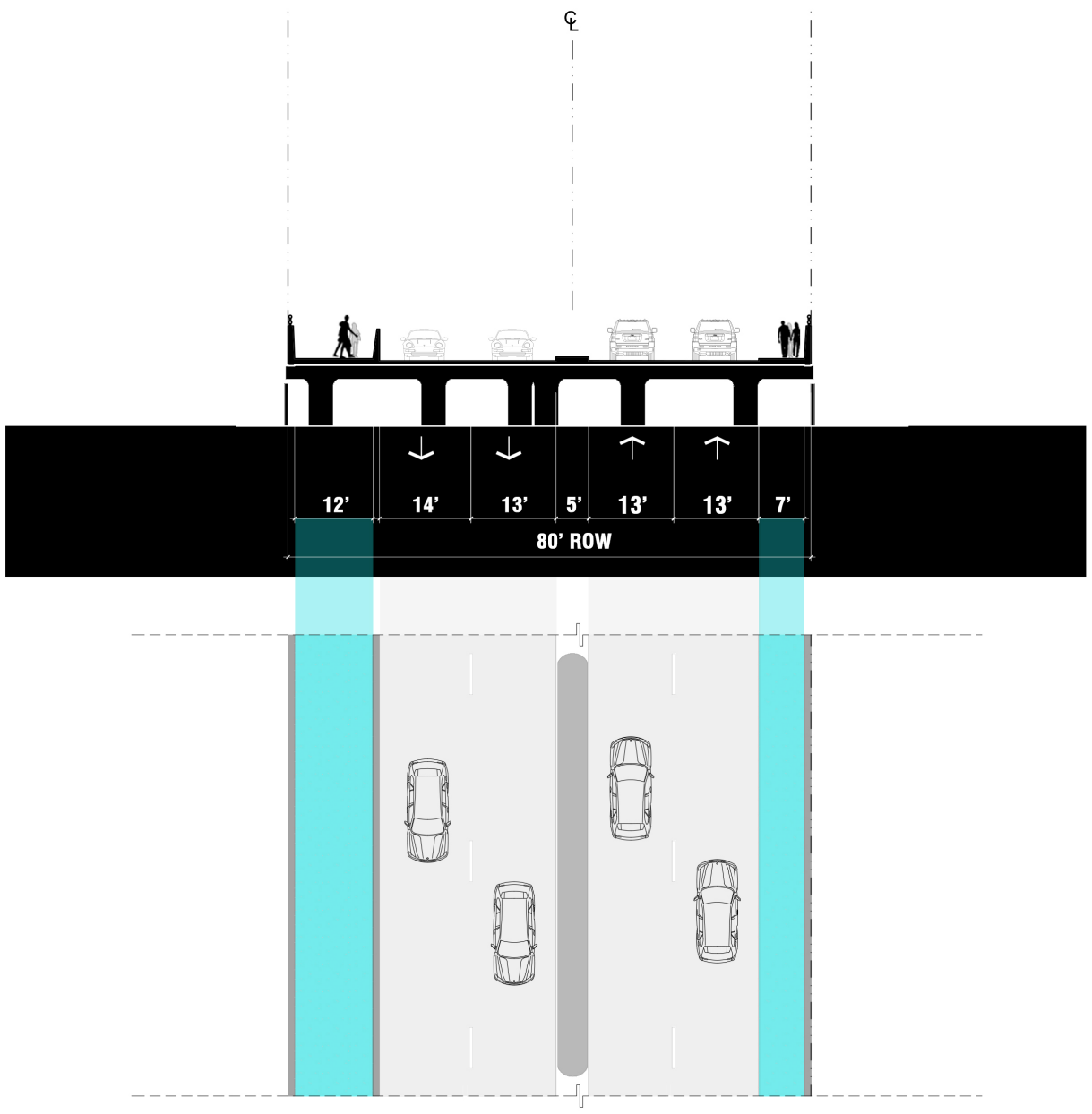




ALTON ROAD | Between W 43rd Street / I-195 Julia Tuttle Causeway / Mt. Sinai Hospital and South to Michigan Avenue

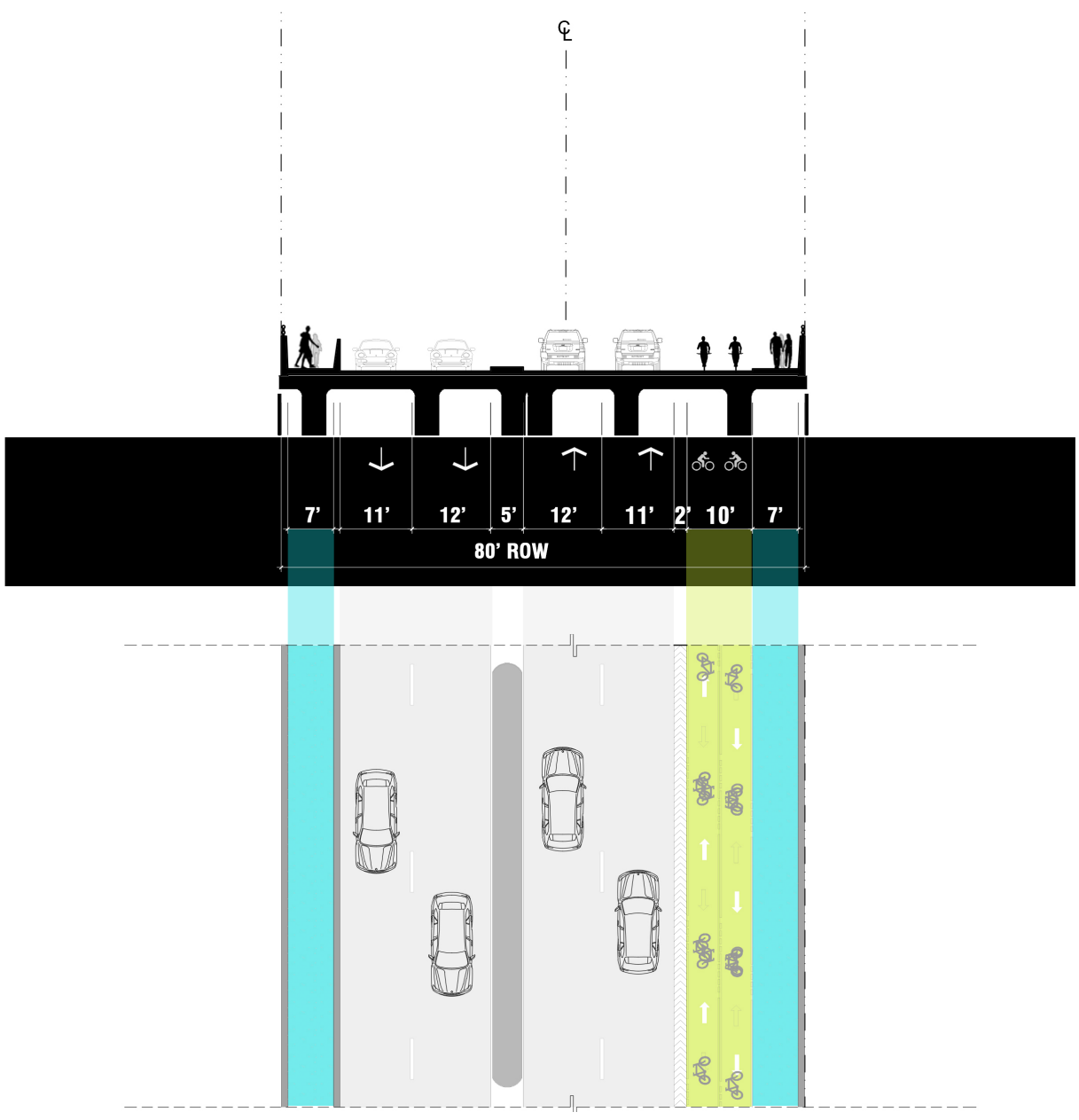


EXISTING: ALTON ROAD | BRIDGE at Chase Avenue



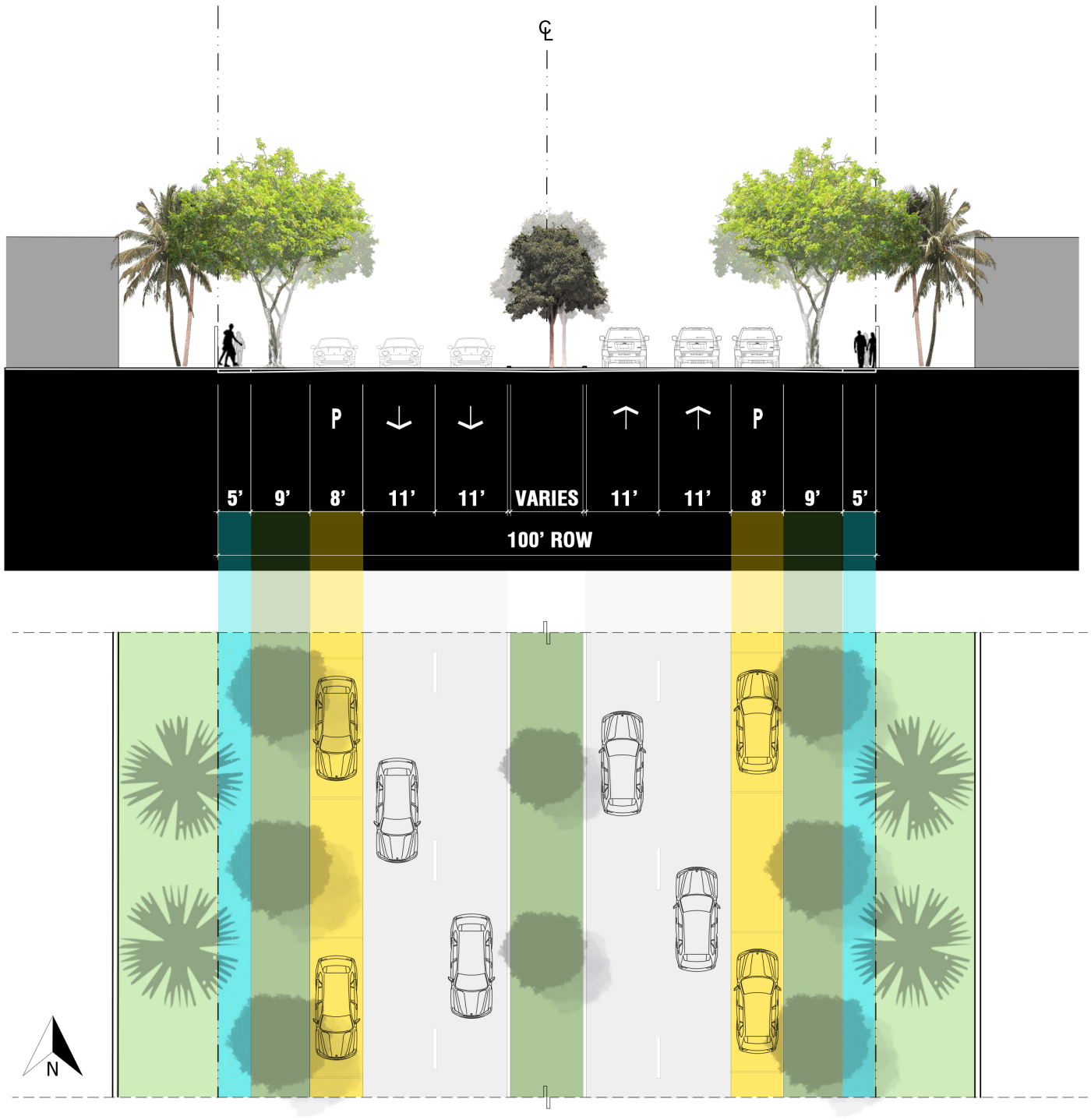
ALTON ROAD SEGMENTS 1, 2, 3 and 4 between W 43rd Street and Michigan Avenue

PROPOSED: ALTON ROAD| BRIDGE at Chase Avenue

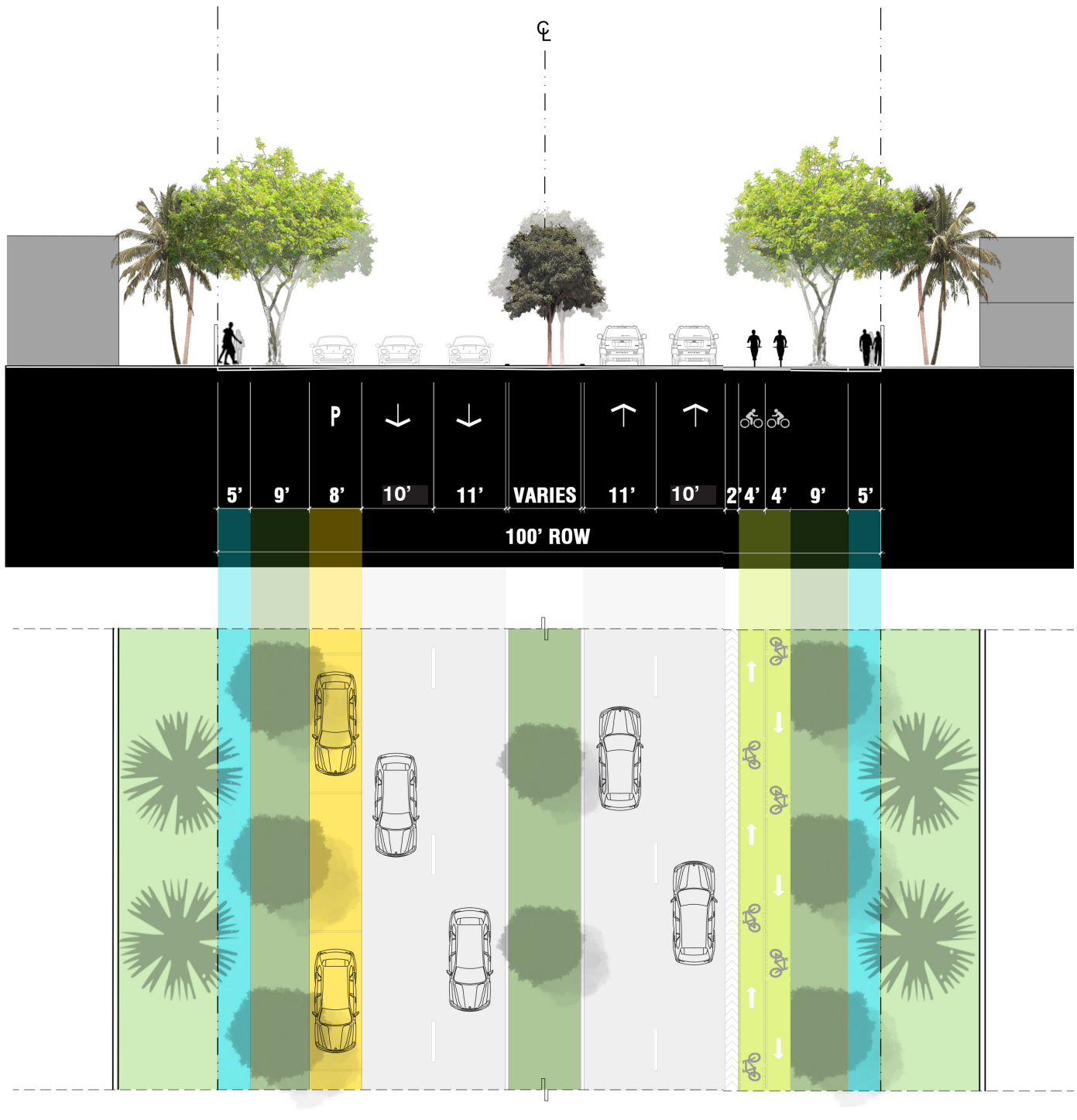


EXISTING: OLD ALTON ROAD | Segment 1 - North of W 41st Street to W 43rd Street

NOTE: This segment is illustrated here for reference purposes only. Refer to Alton Road Booklet for more information.

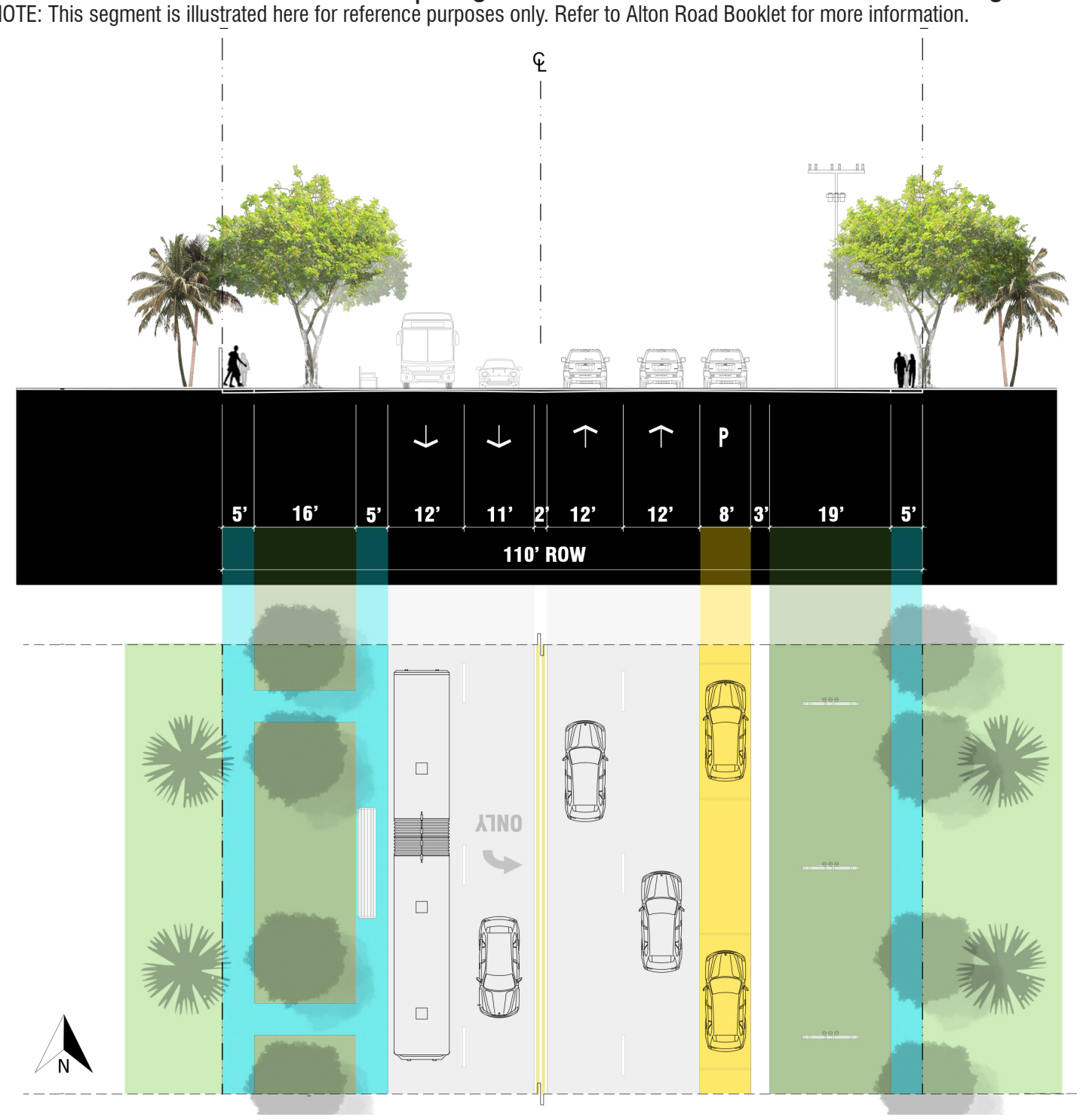


PROPOSED: OLD ALTON ROAD | Segment 1 - Protected Bike Lanes

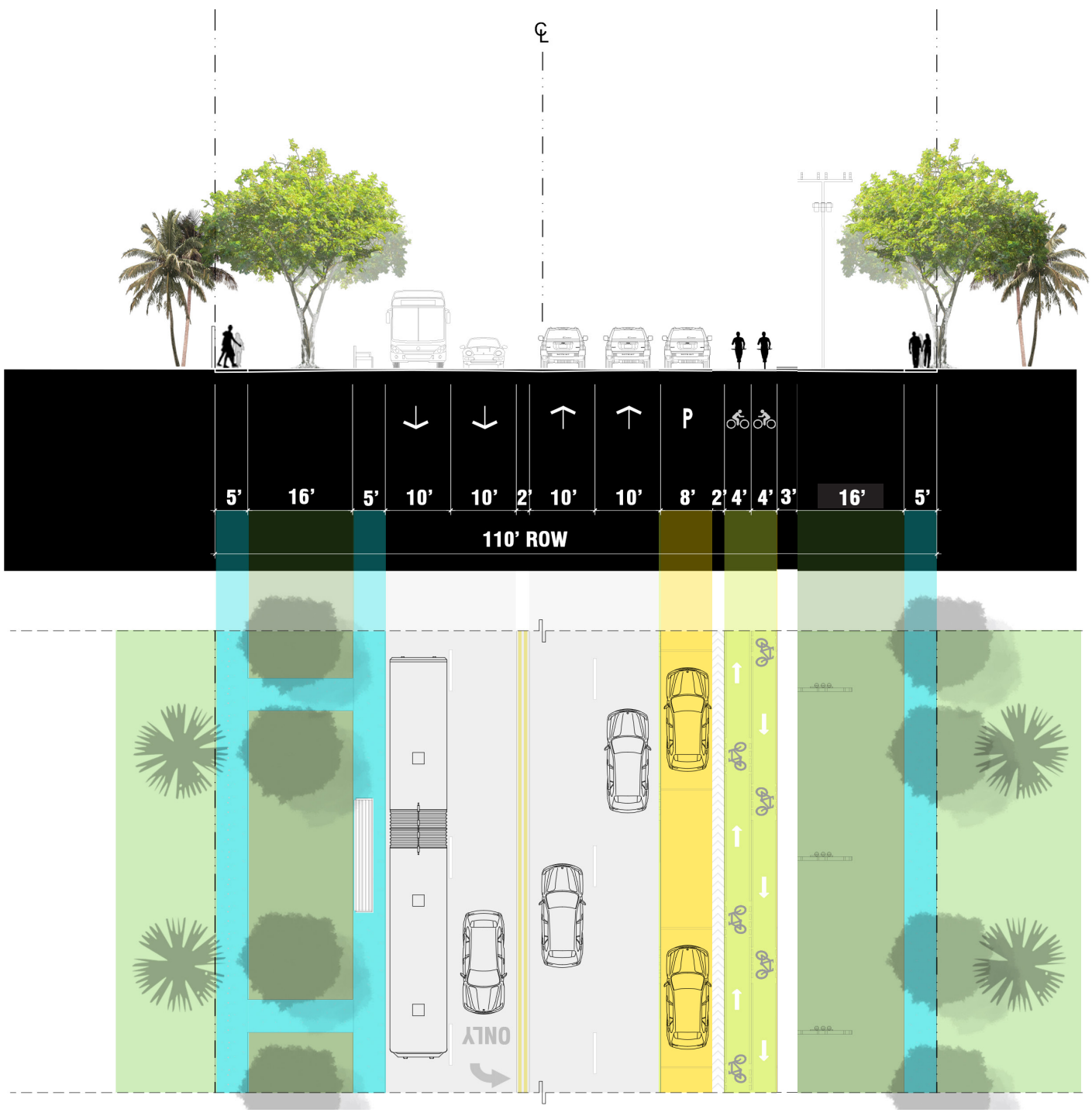


EXISTING: OLD ALTON ROAD | Segment 2 - South of 41st Street to Bridge at Chase Ave

NOTE: This segment is illustrated here for reference purposes only. Refer to Alton Road Booklet for more information.



PROPOSED: OLD ALTON ROAD | Segment 2 - Protected Bike Lanes



LANDSCAPING | North Bay Road and Cross Streets

Street Trees

VERA WOOD- Medium Sized Trees (Areas 7-10 feet wide)

For North Bay Road, medium sized trees are recommended to be planted at a minimum 20’ on center as part of the proposed streetscape enhancements at speed table locations.

New Bioswale / Bioretention Treatment

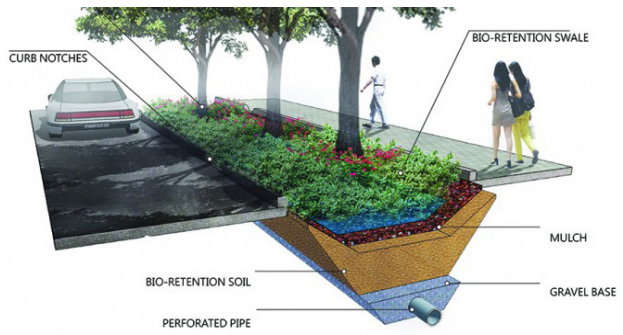
Swales along North Bay Road are typically +/-20’ wide. Along east / west cross streets the width of the swale varies. As appropriate, the introduction of landscaping incuding appropriate plants and soil can be used as key functional elements of landscaped stormwater / bio-retention facilities while also serving as aesthetic enhancements with the resulting and important benefit of calming through traffic along these streets.

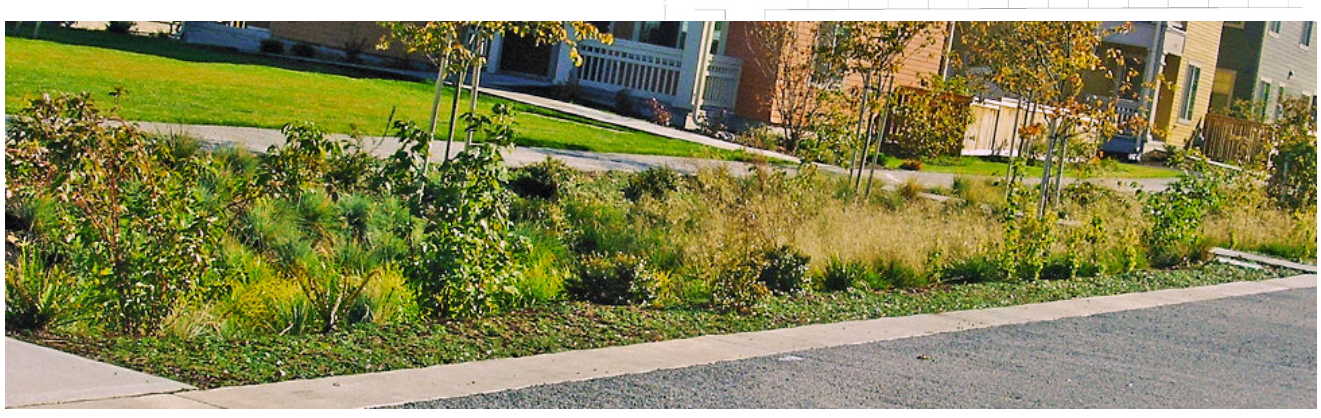
At proposed ‘chicane’ locations on North Bay Road as well as along existing east / west cross streets (between Alton Road and North Bay Road), this natural system approach improves the quality of the urban runoff through bio-retention processes as well as adds areas of increased shade and aesthetic appeal.

Bioswale/bioretention swale treatment benefits include:

- Reduced runoff: In a typical road, a 4-meter (13-feet) swale can reduce approximately 25 percent of total rainfall runoff.
- Reduced pollutants: Bioswales and bioretention ponds remove pollutants by filtering stormwater runoff through natural vegetation and soil-based systems.
- Recharged groundwater: Instead of releasing stormwater into the drainage system, stormwater can be filtered and may provide some groundwater recharge.
- Improved energy efficiency through: Sustainable, decentralized stormwater management systems may be more cost effective than centralized stormwater systems. At the minimum, these natural technologies reduce pressure on existing systems and the maintenance costs associated with centralized stormwater management systems.

The following examples illustrate various types of bioswales and bioretention treatment options depending on existing roadway configuration (eg. swale; curb conditions; etc.).





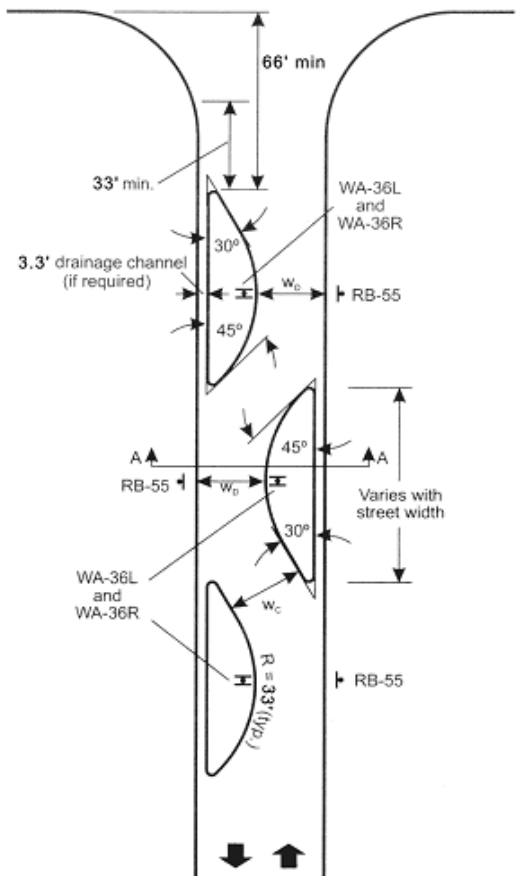
TRAFFIC CALMING | North Bay Road

New “Chicanes”

New ‘chicanes’ are proposed along North Bay Road where the wide right-of-way and existing swales allows a series of alternating mid-block extensions or islands that narrow the roadway and require vehicles to follow a curving, S-shaped path, discouraging speeding.

Chicanes can also create new areas for landscaping resulting in a scenic and safe route for enjoyment of residents and bicyclists.

The following examples illustrate types of ‘chicanes’ depending on existing roadway configurations and dimensions (eg. swale vs curb condition; etc.)



New Traffic Circles

Traffic Circles can serve as traffic calming elements. Along North Bay Road, a traffic circle is proposed to be located where North Bay Road intersects with W 63rd, W 56th, W 29th and W 23rd Streets to reduce traffic speed at these locations and increase safety for pedestrians and bicyclists.

PARKING | Impact Analysis

NORTH BAY ROAD	Upper North Bay Road	Lower North Bay Road
Proposed Change	No Existing Parking Removed	No Existing Parking Removed
Existing Parking	N/A	N/A
Existing Parking	N/A	N/A
Total Parking	N/A	N/A
Parking to be Relocated =	0 N/S-Parallel/Parallel	0 N/S-Parallel/Parallel

ALTON ROAD between W 43rd Street and Michigan Avenue	OLD ALTON ROAD SEG 1 North of 41st Street	OLD ALTON ROAD SEG 2 South of 41st Street	ALTON ROAD SEG 3 South of Chase Bridge, by Golf Course	ALTON ROAD SEG 4 by Miami Beach Golf Club Parking
Proposed Change	Remove 9 spaces to Eastside to accommodate dedicated Bike Lanes	Remove 4 spaces on Eastside to accommodate dedicated Bike Lanes	No Existing Parking Removed	Convert existing off street perpendicular parking to angled parking
Existing Parking	13 West - Parallel	4 West - Parallel	43 West - Parallel	23 West - Parallel
	14 Residential 4 Metered	8 East - Parallel	N/A	131 East - off street parking
Total Parking	**31**	**12**	**43**	**154**
Parking to be Relocated =	14 Residential 4 Metered	4 East Side	0 West Side	Minus 7 ps - East - off street parking

PARKING SUMMARY FOR ALTON ROAD SEGMENTS 1, 2 3, AND 4

Existing Parking Spaces = 240 ps
Parking Relocated = 22 ps
Net TOTAL Parking = 233 ps
** Note: City will work to mitigate the loss of on-street parking spaces.*

PARKING SUMMARY FOR OLD ALTON ROAD, SOUTH OF 41ST STREET

Conceptual layout below illustrates proposed relocation of 4 parallel parking spaces on east side of Old Alton Road (Segment 2) to W 39th Street and Nautilus Drive. Refer to image and notes for details. If implemented, the parking count between 41st Street and 39th Street would be preserved. Parking is also preserved south of 39th Street.

LEGEND:

1. At this location on Old Alton Road, remove (4) four existing paralell parking spaces to accomodate new bike lanes. Add bikeshare parking.

2. Relocate existing bikeshare parking to Old Alton Road within easy access of new bike lanes and fronting existing businesses located between W 41st Street and W 39th Street. Add (2) two new paralell parking spaces along southside of W 39th Street.

3. Add (2) two new paralell parking spaces along northside of Nautilus Drive, next to City-owned Parking Lot (P62).

Table 1: The Miami Beach Parking Department evaluated the impact of parking removal necessary to accommodate that Shared Use Path on Old Alton Road. This analysis shows the parking revenue impact of removing **all** parking on the east side of Old Alton Road.

The analysis also assumes that the residential parking is removed on the east side of Old Alton Road, and that residents now park in the P61 Parking Lot. This would mean a decrease in paid utilization of P61.

Old Alton Rd Bicycle Lanes (8X)

	8X		P61		
Month	**Coinroom**	**Parkmobile**	**Coinroom**	**Parkmobile**	**Total Revenue**
OCT	$12,769	$6,923	$1,957	$1,764	$23,413
NOV	$19,335	$7,868	$2,316	$1,997	$31,517
DEC	$19,503	$7,361	$2,881	$1,895	$31,640
JAN	$22,847	$8,015	$2,284	$2,077	$35,223
FEB	$19,445	$8,024	$2,711	$2,003	$32,182
MAR	$25,432	$8,775	$3,253	$2,479	$39,939
APR	$17,262	$7,917	$2,551	$2,449	$30,180
MAY	$16,627	$8,282	$2,276	$2,872	$30,057
JUN	$18,547	$7,967	$2,788	$2,502	$31,804
JUL	$16,878	$7,371	$3,382	$1,825	$29,456
AUG	$19,590	$7,551	$3,059	$2,412	$32,613
SEP	$9,438	$4,706	$1,346	$1,578	$17,067
FY 17 Total	**$217,675**	**$90,759**	**$30,805**	**$25,853**	**$365,092**

Old Alton Rd Revenue Calculation

Meter Collection Zone	**8X**
Commercial Loading Zone	12
Freight Loading Zone	0
Handicapped Parking	12
Motorcycle Only	10
Other	0
Parking Space	420
Passanger Loading Zone	17
Taxi Zone	5
Total Spaces	**476**

East Side Old Alton Rd	
Metered Parking Spaces	12
Residental Parking Spaces	14
Total East Side Old Alton Rd Parking Spaces	**26**

Municipal Surface Lot	**P61**
Parking Space	35
Handicapped Parking	2
Total Spaces	**37**

Metered East Side Old Alton Rd	
FY 2017 Meter Zone 8X Revenue	$308,434
Zone 8X Paid Spaces (FLZ, Motor, Car,CLZ)	442
Revenue Per Space	$698
East Side Old Alton Rd Spaces	12
Metered Parking Impact	**$8,374**
Percent of Total FY 17 Zone 4X Revenue	**3%**

Residential East Side Old Alton Rd	
FY 2017 P61 Revenue	$56,658
P61 Paid Spaces	35
Revenue Per Space	$1,619
East Side Old Alton Rd Residential Spaces	14
Residential Parking Impact	**$22,663**
Percent of Total FY 17 P61 Revenue	**40%**
Potential Metered Parking Revenue Loss	**$31,037**

Table 2: The Miami Beach Parking Department also analyzed the utilization of the P61 Parking Lot. Parking utilization in P61 decreased slightly by -0.62% between FY15 and FY18.

City of Miami Beach Parking Utilization Trend

METERED LOT HOURS (OFF-STREET)

Zone	**#**	**FY15 Hours**	**FY16 Hours**	**FY16-FY15 Diff**	**FY16-FY15 % Diff**	**FY17 Hours**	**FY17-FY15 Diff**	**FY17-FY15 % Diff**	**YTD (AUG) FY18 Hours**	**FY18-FY15 Diff**	**FY18-FY15 % Diff**
Middle	P61	55,276	56,451	1,175	2.13%	56,658	1,382	2.50%	54,932	(344)	-0.62%
TOTAL OFF-STREET HOURS		**55,276**	**56,451**	**1,175**	**2.13%**	**56,658**	**1,382**	**2.50%**	**54,932**	**(344)**	**-0.62%**

APPENDIX

COST ESTIMATE SUMMARY | North Bay Road Neighborhood Greenways

North Bay Road- Cost Estimate Summary

NORTH BAY ROAD - SEGMENT 1		No. of Trees	Year 1	Year 2	Year 3	Year 4	Year 5
Roadways					*30% design*	*Construction*	
Area 1	$579,409.44	30			$173,822.83	$579,409.44	
Area 1 Cross Streets	$642,177.36	54			$192,653.21	$642,177.36	
Two (2) Traffic Circles	$400,000.00	4			$120,000.00	$400,000.00	
Sub-Total =	**$1,621,586.80**	**84**			**$486,476.04**	**$1,621,586.80**	
NORTH BAY ROAD - SEGMENT 2							
Roadways							
Area 2	$231,763.78	12			$69,529.13	$231,763.78	
Area 2 Cross Streets	$285,412.16	24			$85,623.65	$285,412.16	
Sub-Total =	**$517,175.94**	**36**			**$155,152.78**	**$517,175.94**	
NORTH BAY ROAD - SEGMENT 3							
Roadways							
Area 3	$289,704.72	15			$86,911.42	$289,704.72	
Area 3 Cross Streets	$356,765.20	30			$107,029.56	$356,765.20	
Two (2) Traffic Circles	$400,000.00	4			$120,000.00	$400,000.00	
Sub-Total =	**$1,046,469.92**	**45**			**$313,940.98**	**$1,046,469.92**	
TOTAL Demo & Construction =	**$3,185,232.66**	**165**					
Total incl 30% Design Costs =	**$4,140,802.46**				**$955,569.80**	**$3,185,232.66**	

North Bay Road (Area 1) Per L.F. Cost Estimate

Item	Description	Units	Quantity	Unit Price	Cost/L.F
1D	Milling (all asphalt)	S.Y.	2.77	$6.50	$18.01
2D	Asphalt Removal	S.Y.	0.5	$6.50	$3.25
3D	Curb & Gutter Removal	L.F.	0	$10.50	$0.00
4D	6' wide Concrete swk removal	L.F.	0	$12.50	$0.00
5D	roadway excavation for chicanes area	C.Yd.	6	$15.50	$93.00
Total DEMO	**Total Demo per L.F. of Road**				**$114.26**

Item	Description	Units	Quantity	Unit Price	Cost/L.F	
1C	Resurfacing (2" of SP 9.50 in two lifts) all asphalt	S.Y.	2.77	$21.50	$59.56	
2C	Stabilized Sub-Base (40 LBR)	S.Y.	0.5	$6.50	$3.25	
3C	12" Base Rock (LBR=100)	S.Y.	0.5	$17.50	$8.75	
4C	2" SP 9.5 in 2-lifts	S.Y.	0	$21.50	$0.00	
5C	Type "F" Curb & Gutter	L.F.	0	$23.50	$0.00	
7C	Low planting material on chicanes and replacement of sod	L.F.	3.56	$3.10	$11.02	
8C	Chicanes/trees	L.F.	3	$50.00	$150.00	
	Total Construction per L.F. of Road				**$232.58**	
9C	Pavement Marking & Signage (20% of Const. Cost)	L.F.	L.S.	L.S.	$46.52	
10C	Drainage (20% of Const. Cost)	L.F.	L.S.	L.S.	$46.52	
11C	MOT (20% of Const. Cost)	L.F.	L.S.	L.S.	$46.52	
12C	Lighting (Not Applicable)	L.F.	L.S.	L.S.	$0.00	
13C	Mobilization (10% of Const. Cost)	L.F.	L.S.	L.S.	$23.26	
14C	Contingency (30% of Const. Cost) -Includes conc. Repairs	L.F.	L.S.	L.S.	$69.77	
Total CONSTRUCTION	**Total Construction Cost per L.F. of Road**				**$465.15**	100 LF X 10
Grand Total	**Demo and Construction Cost per L.F. of Road**				**$579.41**	**$579,409.44**

Total CONSTRUCTION

Notes:

1. Grass bio swales extend 2 ' on each side of road
2. Mill & resurface remaining existing asphalt
3. This link has 10 "Chicanes"
4. New trees on all new Chicanes — 3 trees per Chicane X 10 = 30 trees

North Bay Road at Cross Streets (Area 1)- total 9 streets . Per L.F. Cost Estimate

Item	Description	Units	Quantity	Unit Price	Cost/L.F
1D	Milling (all asphalt)	S.Y.	2.5	$6.50	$16.25
2D	Asphalt Removal	S.Y.	0	$6.50	$0.00
3D	Curb & Gutter Removal	L.F.	0	$10.50	$0.00
4D	6' wide Concrete swk removal	L.F.	0	$12.50	$0.00
5D	excavation for chicanes area	C.Yd.	2.89	$15.50	$44.80
Total DEMO	**Total Demo per L.F. of Road**				**$61.05**

Item	Description	Units	Quantity	Unit Price	Cost/L.F	
1C	Resurfacing (2" of SP 9.50 in two lifts) all asphalt	S.Y.	2.5	$21.50	$53.75	
2C	Stabilized Sub-Base (40 LBR)	S.Y.	0	$6.50	$0.00	
3C	12" Base Rock (LBR=100)	S.Y.	2.89	$17.50	$50.58	
4C	2" SP 9.5 in 2-lifts	S.Y.	0.1	$21.50	$2.15	
5C	Type "F" Curb & Gutter	L.F.	0	$23.50	$0.00	
6C	7.5' Wide 4" thick Sidewalk to connect to speed table	L.F.	0	$28.50	$0.00	
7C	Low planting material (13' bioswales on both sides of Rd.)	L.F.	2.89	$3.10	$8.96	
8C	Trees	L.F.	6	$50.00	$300.00	
	Total Construction per L.F. of Road				**$415.43**	
9C	Pavement Marking & Signage (20% of Const. Cost)	L.F.	L.S.	L.S.	$83.09	
10C	Drainage (20% of Const. Cost)	L.F.	L.S.	L.S.	$83.09	
11C	MOT (20% of Const. Cost)	L.F.	L.S.	L.S.	$83.09	
12C	Lighting (Not Applicable)	L.F.	L.S.	L.S.	$0.00	
13C	Mobilization (10% of Const. Cost)	L.F.	L.S.	L.S.	$41.54	
14C	Contingency (30% of Const. Cost) -Includes conc. Repairs	L.F.	L.S.	L.S.	$124.63	
Total CONSTRUCTION	**Total Construction Cost per L.F. of Road**				**$830.87**	80 L.F X 9 Streets
Grand Total	**Demo and Construction Cost per L.F. of Road**				**$891.91**	**$642,177.36**

Notes:

1. Bio swales extend 2 ' on each side of road
2. Mill & resurface remaining existing asphalt
3. This link has 9 Cross Streets
4. Six (6) Street trees per cross street — 6 X 9 = 54 street trees

North Bay Road (Area 2) Per L.F. Cost Estimate

Item	Description	Units	Quantity	Unit Price	Cost/L.F
1D	Milling (all asphalt)	S.Y.	2.77	$6.50	$18.01
2D	Asphalt Removal	S.Y.	0.5	$6.50	$3.25
3D	Curb & Gutter Removal	L.F.	0	$10.50	$0.00
4D	6' wide Concrete swk removal	L.F.	0	$12.50	$0.00
5D	roadway excavation for chicanes area	C.Yd.	6	$15.50	$93.00
Total DEMO	**Total Demo per L.F. of Road**				**$114.26**

Item	Description	Units	Quantity	Unit Price	Cost/L.F
1C	Resurfacing (2" of SP 9.50 in two lifts) all asphalt	S.Y.	2.77	$21.50	$59.56
2C	Stabilized Sub-Base (40 LBR)	S.Y.	0.5	$6.50	$3.25
3C	12" Base Rock (LBR=100)	S.Y.	0.5	$17.50	$8.75
4C	2" SP 9.5 in 2-lifts	S.Y.	0	$21.50	$0.00
5C	Type "F" Curb & Gutter	L.F.	0	$23.50	$0.00
7C	Low planting material on chicanes and replacement of sod	L.F.	3.56	$3.10	$11.02
8C	Chicanes/trees	L.F.	3	$50.00	$150.00
	Total Construction per L.F. of Road				**$232.58**
9C	Pavement Marking & Signage (20% of Const. Cost)	L.F.	L.S.	L.S.	$46.52
10C	Drainage (20% of Const. Cost)	L.F.	L.S.	L.S.	$46.52
11C	MOT (20% of Const. Cost)	L.F.	L.S.	L.S.	$46.52
12C	Lighting (Not Applicable)	L.F.	L.S.	L.S.	$0.00
13C	Mobilization (10% of Const. Cost)	L.F.	L.S.	L.S.	$23.26
14C	Contingency (30% of Const. Cost) -Includes conc. Repairs	L.F.	L.S.	L.S.	$69.77
Total CONSTRUCTION	**Total Construction Cost per L.F. of Road**				**$465.15** 100 LF X 4
Grand Total	**Demo and Construction Cost per L.F. of Road**				**$579.41** **$231,763.78**

Notes:
1. Grass swales extend 2 ' on each side of road
2. Mill & resurface remaining existing asphalt
3. This link has 4 "Chicanes"
4. New trees on all new Chicanes 3 trees per Chicane X 4= 12 trees

North Bay Road at Cross Streets (Area 2)- total 5 streets . Per L.F. Cost Estimate

Item	Description	Units	Quantity	Unit Price	Cost/L.F
1D	Milling (all asphalt)	S.Y.	2.5	$6.50	$16.25
2D	Asphalt Removal	S.Y.	0	$6.50	$0.00
3D	Curb & Gutter Removal	L.F.	0	$10.50	$0.00
4D	6' wide Concrete swk removal	L.F.	0	$12.50	$0.00
5D	roadway excavation	C.Yd.	2.89	$15.50	$44.80
Total DEMO	**Total Demo per L.F. of Road**				**$61.05**

Item	Description	Units	Quantity	Unit Price	Cost/L.F
1C	Resurfacing (2" of SP 9.50 in two lifts) all asphalt	S.Y.	2.5	$21.50	$53.75
2C	Stabilized Sub-Base (40 LBR)	S.Y.	0	$6.50	$0.00
3C	12" Base Rock (LBR=100)	S.Y.	2.89	$17.50	$50.58
4C	2" SP 9.5 in 2-lifts	S.Y.	0.1	$21.50	$2.15
5C	Type "F" Curb & Gutter	L.F.	0	$23.50	$0.00
6C	7.5' Wide 4" thick Sidewalk to connect to speed table	L.F.	0	$28.50	$0.00
7C	Low planting material (13' bioswales on both sides of Rd.)	L.F.	2.89	$3.10	$8.96
8C	Trees	L.F.	6	$50.00	$300.00
	Total Construction per L.F. of Road				**$415.43**
9C	Pavement Marking & Signage (20% of Const. Cost)	L.F.	L.S.	L.S.	$83.09
10C	Drainage (20% of Const. Cost)	L.F.	L.S.	L.S.	$83.09
11C	MOT (20% of Const. Cost)	L.F.	L.S.	L.S.	$83.09
12C	Lighting (Not Applicable)	L.F.	L.S.	L.S.	$0.00
13C	Mobilization (10% of Const. Cost)	L.F.	L.S.	L.S.	$41.54
14C	Contingency (30% of Const. Cost) -Includes conc. Repairs	L.F.	L.S.	L.S.	$124.63
Total CONSTRUCTION	**Total Construction Cost per L.F. of Road**				**$830.87** 80 LF X 4 Streets
Grand Total	**Demo and Construction Cost per L.F. of Road**				**$891.91** **$285,412.16**

Notes:
1. Bio swales extend 2 ' on each side of road
2. Mill & resurface remaining existing asphalt
3. This link has 4 Cross Streets 6 X 4 24 street trees

North Bay Road (Area 3) Per L.F. Cost Estimate

Item	Description	Units	Quantity	Unit Price	Cost/L.F
1D	Milling (all asphalt)	S.Y.	2.77	$6.50	$18.01
2D	Asphalt Removal	S.Y.	0.5	$6.50	$3.25
3D	Curb & Gutter Removal	L.F.	0	$10.50	$0.00
4D	6' wide Concrete swk removal	L.F.	0	$12.50	$0.00
5D	roadway excavation for chicanes area	C.Yd.	6	$15.50	$93.00
Total DEMO	**Total Demo per L.F. of Road**				**$114.26**

Item	Description	Units	Quantity	Unit Price	Cost/L.F	
1C	Resurfacing (2" of SP 9.50 in two lifts) all asphalt	S.Y.	2.77	$21.50	$59.56	
2C	Stabilized Sub-Base (40 LBR)	S.Y.	0.5	$6.50	$3.25	
3C	12" Base Rock (LBR=100)	S.Y.	0.5	$17.50	$8.75	
4C	2" SP 9.5 in 2-lifts	S.Y.	0	$21.50	$0.00	
5C	Type "F" Curb & Gutter	L.F.	0	$23.50	$0.00	
7C	Low planting material on chicanes and replacement of sod	L.F.	3.56	$3.10	$11.02	
8C	Chicanes/trees	L.F.	3	$50.00	$150.00	
	Total Construction per L.F. of Road				**$232.58**	
9C	Pavement Marking & Signage (20% of Const. Cost)	L.F.	L.S.	L.S.	$46.52	
10C	Drainage (20% of Const. Cost)	L.F.	L.S.	L.S.	$46.52	
11C	MOT (20% of Const. Cost)	L.F.	L.S.	L.S.	$46.52	
12C	Lighting (Not Applicable)	L.F.	L.S.	L.S.	$0.00	
13C	Mobilization (10% of Const. Cost)	L.F.	L.S.	L.S.	$23.26	
14C	Contingency (30% of Const. Cost) -Includes conc. Repairs	L.F.	L.S.	L.S.	$69.77	
Total CONSTRUCTION	**Total Construction Cost per L.F. of Road**				**$465.15**	100 LF X 5
Grand Total	**Demo and Construction Cost per L.F. of Road**				**$579.41**	**$289,704.72**

Notes:
1. Bio-swales extend 2 ' on each side of road
2. Mill & resurface remaining existing asphalt
3. This link has 5 "Chicanes"
4. New trees on all new Chicanes 3 trees per Chicane X 5= 15 trees

North Bay Road at Cross Streets (Area 3)- total 5 streets . Per L.F. Cost Estimate

Item	Description	Units	Quantity	Unit Price	Cost/L.F
1D	Milling (all asphalt)	S.Y.	2.5	$6.50	$16.25
2D	Asphalt Removal	S.Y.	0	$6.50	$0.00
3D	Curb & Gutter Removal	L.F.	0	$10.50	$0.00
4D	6' wide Concrete swk removal	L.F.	0	$12.50	$0.00
5D	roadway excavation	C.Yd.	2.89	$15.50	$44.80
Total DEMO	**Total Demo per L.F. of Road**				**$61.05**

Item	Description	Units	Quantity	Unit Price	Cost/L.F	
1C	Resurfacing (2" of SP 9.50 in two lifts) all asphalt	S.Y.	2.5	$21.50	$53.75	
2C	Stabilized Sub-Base (40 LBR)	S.Y.	0	$6.50	$0.00	
3C	12" Base Rock (LBR=100)	S.Y.	2.89	$17.50	$50.58	
4C	2" SP 9.5 in 2-lifts	S.Y.	0.1	$21.50	$2.15	
5C	Type "F" Curb & Gutter	L.F.	0	$23.50	$0.00	
6C	7.5' Wide 4" thick Sidewalk to connect to speed table	L.F.	0	$28.50	$0.00	
7C	Low planting material (13' bioswales on both sides of Rd.)	L.F.	2.89	$3.10	$8.96	
8C	Trees	L.F.	6	$50.00	$300.00	
	Total Construction per L.F. of Road				**$415.43**	
9C	Pavement Marking & Signage (20% of Const. Cost)	L.F.	L.S.	L.S.	$83.09	
10C	Drainage (20% of Const. Cost)	L.F.	L.S.	L.S.	$83.09	
11C	MOT (20% of Const. Cost)	L.F.	L.S.	L.S.	$83.09	
12C	Lighting (Not Applicable)	L.F.	L.S.	L.S.	$0.00	
13C	Mobilization (10% of Const. Cost)	L.F.	L.S.	L.S.	$41.54	
14C	Contingency (30% of Const. Cost) -Includes conc. Repairs	L.F.	L.S.	L.S.	$124.63	
Total CONSTRUCTION	**Total Construction Cost per L.F. of Road**				**$830.87**	80 L.F X 5 Streets
Grand Total	**Demo and Construction Cost per L.F. of Road**				**$891.91**	**$356,765.20**

Notes:
1. Bio- swales extend 2 ' on each side of road
2. Mill & resurface remaining existing asphalt
3. This link has 5 cross streets 6 X 5 30 street trees

Meeting Type	Meeting Date	Topics Discussed	Attendees	Recommendations
1. Public Meeting 01	August 7, 2017	To present the study to the public and invite community feedback. The response from the community was positive.	Community representatives	
2. Concept Review Meetings – (4) total	July 19, 2017 October 25, 2017 November 6, 2017 March 19, 2018	Developing Concepts were refined and reviewed extensively with Transportation staff and internal Miami Beach stakeholders.	Attendees included representatives from Capital Improvement Projects, Emergency Management, Parking, Planning, Public Works, Tourism, Culture, and Economic Development (TCED).	
3. Site Tour	December 07, 2017	Transportation toured the site area with TCED staff.	TCED Staff	
4. Review Meeting with Miami-Dade County Department of Transportation and Public Works (DTPW)	April 11, 2018	North Bay Road Neighborhood Greenways proposals.	DTPW Miami-Dade TPO Miami Beach Transportation Department	• Focus is traffic calming and traffic diversion not traffic reduction • North Bay Road roadway dimension needs to allow 20'-0" clear for two-way vehicular travel – cannot be reduced to 18'-0". One-ways are 15' minimum width. • Traffic calming along North Bay Road and east/west Cross Streets – proposed speed tables or 'humps' are only allowed at four-way stops or raised intersections. Location needs to be at 250' from intersections. Crosswalks can be midblock, if warranted. • Existing Landscape – no landscaping can be removed to create bike lanes. • No diverters allowed at cross street
5. Design Concepts Review Meetings – (2) total	April 19, 2017 June 11, 2018	The Transportation, Parking and Bicycle Facilities Committee reviewed the Neighborhood Greenways concepts on April 9, 2017 and June 11, 2018.	Transportation, Parking and Bicycle Facilities Committee	

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ARCHITECTS